

**STATE OF INDIANA**  
**INDIANA DEPARTMENT OF CONSERVATION**  
**DIVISION OF WATER RESOURCES**

BULLETIN NO. 14

**GROUND-WATER RESOURCES OF**  
**WEST-CENTRAL INDIANA**

**Preliminary Report: Sullivan County**



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

1962

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PRELIMINARY REPORT: SULLIVAN COUNTY

ERRATA

On Page 6, last paragraph, first sentence should read:  
"and organically rich sand, silt, and clay."

On Page 296, first log, well number should be "9/9w-  
34w1," not "3411."

INDIANA DEPARTMENT OF CONSERVATION

Donald E. Foltz, Director

BULLETIN NO. 14

OF THE

DIVISION OF WATER RESOURCES

Charles H. Bechert, Director

GROUND-WATER RESOURCES OF WEST-CENTRAL INDIANA

Preliminary Report: Sullivan County

BY

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

ENGINEERS, U. S. GEOLOGICAL SURVEY

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## GROUND-WATER RESOURCES OF WEST-CENTRAL INDIANA

Preliminary Report: Sullivan County

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

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### ABSTRACT

Sullivan County, in west-central Indiana, has an area of about 457 square miles. Consolidated rocks of Pennsylvanian age and unconsolidated deposits of Pleistocene age are the sources of ground water for domestic, stock, industrial and municipal supplies. Wells in rocks of Pennsylvanian age average about 100 feet in depth and yields range from about 0.1 to more than 50 gpm although some dry holes are reported. Wells in sand and gravel of Pleistocene age average about 55 feet in depth and yields range from about 1 to more than 1,000 gpm. Field chemical analyses of water from these sources show that the chemical quality varies greatly. The average hardness of water is about 220 ppm, the average chloride content is about 90 ppm, and the average sulfate content is about 70 ppm. In most of the county the iron content and, locally, either the chloride or sulfate content of the ground water exceeds the U. S. Public Health Service (1946) drinking-water standards for those constituents.

This preliminary report contains tabulated records of about 1,270 wells and test holes giving information about well construction, water levels, conditions of occurrence, and characteristics of the water-bearing material; selected logs of about 617 wells and test holes giving the drillers' description of the material encountered and a tentative interpretation by the authors of the geologic age; records of 3 springs giving information about geologic source, yield, and temperature of the water; results of 253 field chemical analyses of water from wells, 3 field chemical analyses from springs, and 25 field chemical analyses from streams giving the hardness and the bicarbonate, chloride, iron, and sulfate content; and water levels in 4 observation wells indicating the magnitude of short and long-term water level fluctuations in the consolidated and unconsolidated rocks. These basic data include much of the material to be used in an interpretive report on the ground-water resources and geology of the area.

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

## INTRODUCTION

### Purpose and Scope

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

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

The investigation was made under the general direction of A. N. Sayre and P. E. LaMoreaux, successive chiefs of the Ground Water Branch of the U. S. Geological Survey, and under the immediate supervision of F. H. Klaer and C. M. Roberts, successive district geologists of the Ground Water Branch for Indiana.

### Location and Areal Extent

Sullivan County is in west-central Indiana (fig. 1). The county is roughly rectangular in shape and has an area of about 457 square miles. It is bounded on the north by Vigo County, on the east by Clay and Greene Counties, on the south by Knox County, and on the west by the State of Illinois.

EXPLANATION



AREA COVERED BY THIS REPORT



AREAS UNDER INVESTIGATION



AREAS COVERED BY REPORTS PUBLISHED UNDER THE COOPERATIVE PROGRAM

SEE PAGE 343 FOR LIST OF PUBLISHED REPORTS

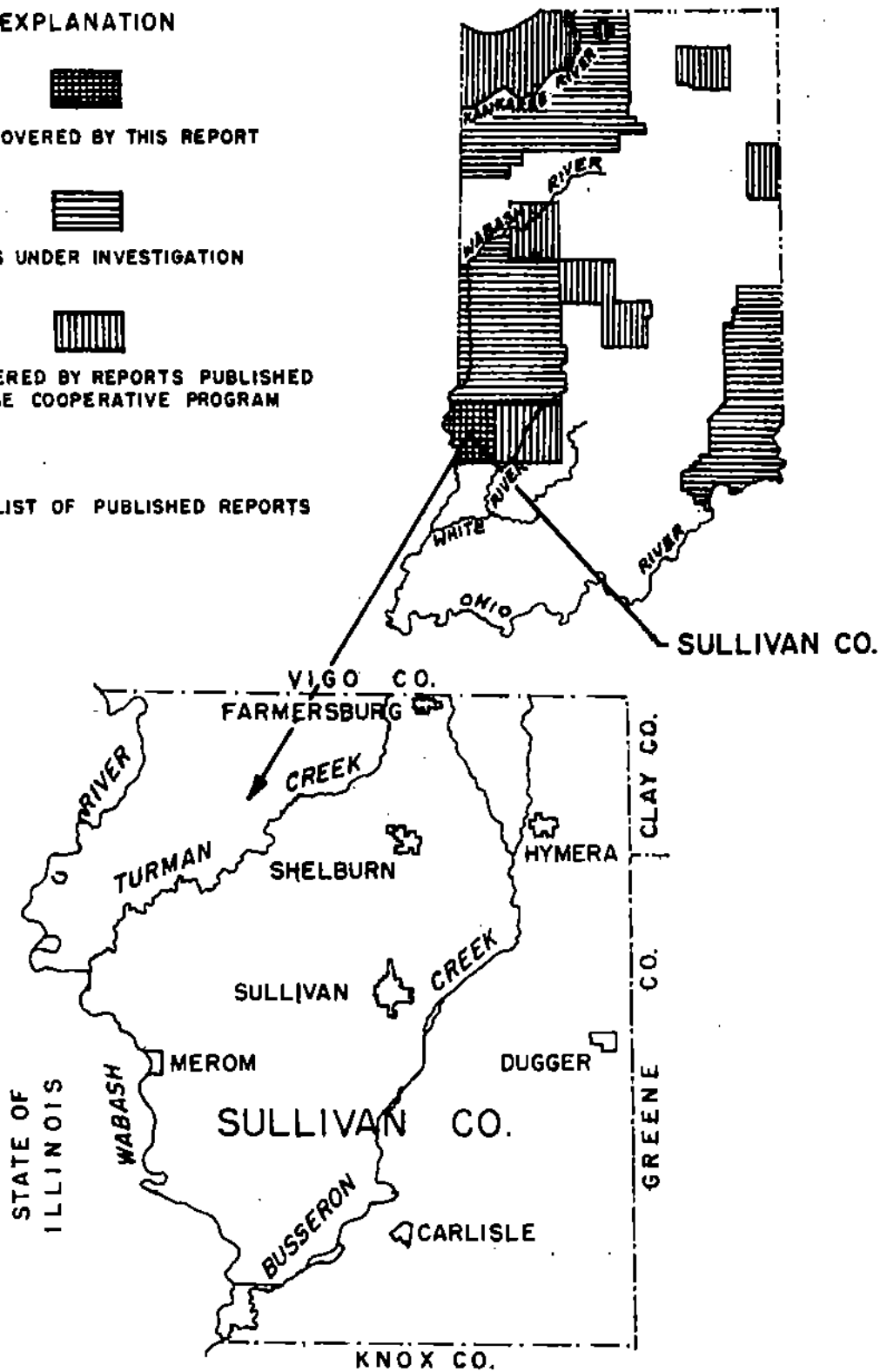


FIGURE 1.-- Map of Indiana showing area covered by this report, areas under investigation and areas covered by reports published under the cooperative program.

Well-Numbering System

A numbering system is used to locate and identify the wells, test holes, and springs in this report. The number assigned to the well, test hole, or spring indicates its location according to the official rectangular survey of public lands. For example, in the number for well 8/9W-33N1, the part preceding the hyphen indicates that the well is in T. 8 N., R. 9 W. The first number after the hyphen indicates the section in which the well is located. Each quarter-quarter section (40-acre tract) within a section is given a letter symbol as shown on figure 2. Within the quarter-quarter section, wells are numbered serially. Therefore, well 8/9W-33N1 is the first well listed in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 33, T. 8 N., R. 9 W.

In the southern part of the county where there are land grants the rectangular survey of public lands was superimposed. Wells in land grants accordingly are numbered in the same manner as those in the rectangular survey area.

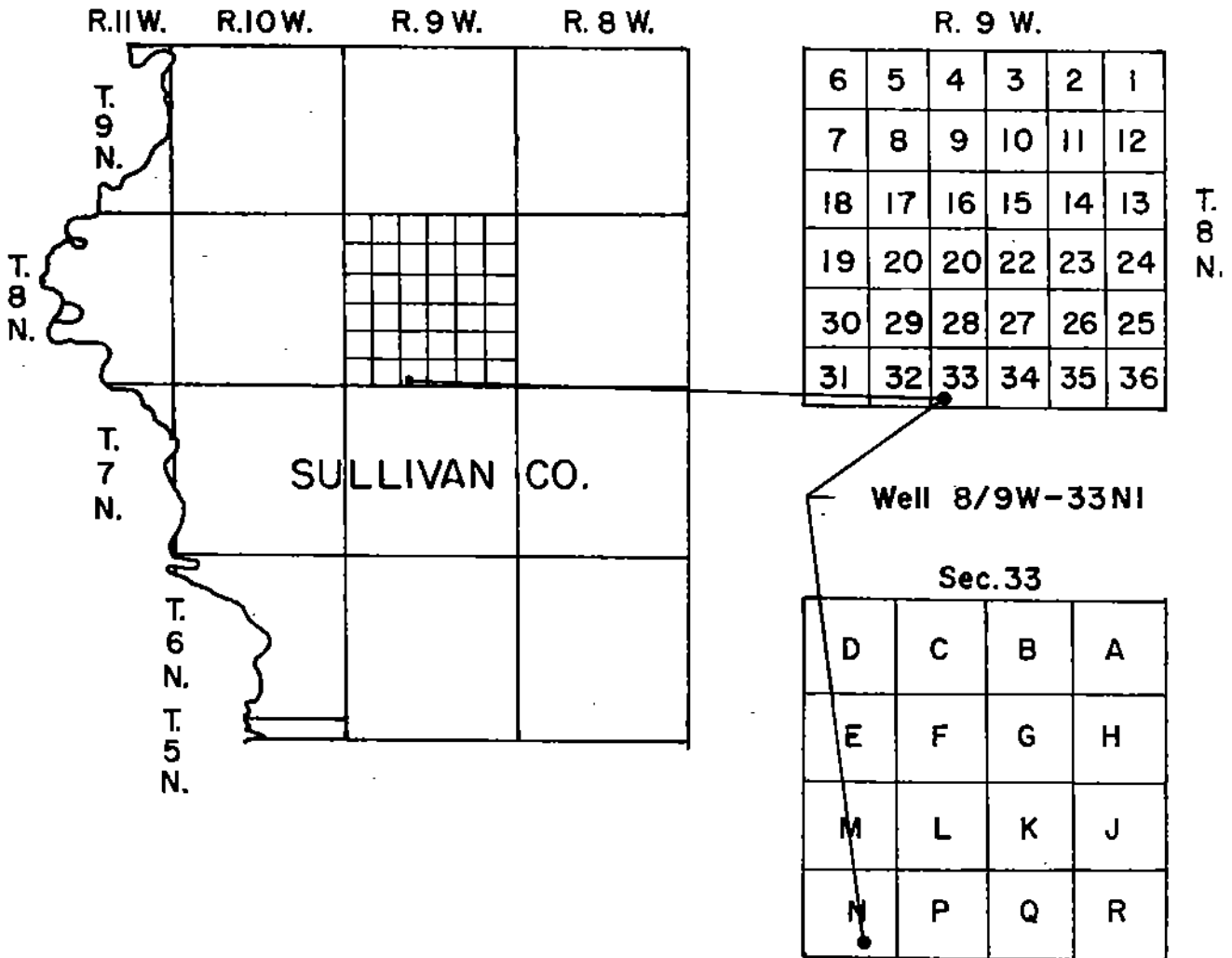


FIGURE 2.-- Sketch showing well-numbering system.



## Acknowledgments

The authors thank all persons who contributed time, information, and assistance during the collection, tabulation, and processing of data for this report. We especially thank the well drillers listed in the table of well records who furnished much of the information summarized in tables 1 and 2.

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

## DATA COLLECTION AND PROCESSING

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

Plate 1 shows the location of water wells, springs, oil wells, test holes, drain holes, or holes drilled for purposes other than water supply, and stream sampling sites. All locations are accurate to the nearest quarter-quarter section and most locations are shown to the nearest 10 acres or quarter-quarter-quarter section. The basic data for these wells and holes drilled for purposes other than water supply are summarized in table 1. Selected drillers' logs of wells and other drill holes and tentative interpretations by the authors of the geologic age of the materials encountered are given in table 2. Basic data for the springs are summarized in table 4.

Samples of water were collected at the time the well and spring sites were visited and from the streams during a period of low flow. These water samples were analyzed in the field office for hardness, alkalinity (expressed as bicarbonate), and chloride content by standard titration methods. Sulfate was determined by a turbidimetric method using a colorimeter when concentrations were below 100 parts per million and by a standard titration method when concentrations exceeded 100 parts per million. The total iron content was determined at the well site immediately after collection by the bipyridine method in which unknown concentrations of iron are compared with standard color ampules having known iron concentrations. The results of the field chemical analyses (tables 3, 4, and 5) were used to select sites for collecting larger water samples for more comprehensive analyses by the U. S. Geological Survey.

During the investigation observation wells were established to measure the fluctuations of water-level. Table 6 contains water level measurements obtained from these wells. Data from these wells show seasonal and longer term

variations of the ground-water level. Two of the observation wells show the effect of pumping of nearby wells.

## GENERAL GEOLOGY AND SOURCES OF GROUND WATER

The oldest consolidated rocks underlying Sullivan County that are important as ground-water sources are of Early, Middle, and Late Pennsylvanian age. The rocks of Pennsylvanian age consist chiefly of sandstone, sandy shale, and shale. Limestone and coal make up a minor part of the rock units in this sequence. The limestone is of little economic importance but the coal deposits are of major economic importance.

Consolidated rocks of Pennsylvanian age crop out throughout the county. Sandstone is the principal source of ground water from consolidated rocks and is tapped extensively by domestic, stock, and a few small industrial wells. Well depths range from about 40 to 500 feet; the average depth being about 100 feet. Yields from these wells range from 0.1 to more than 50 gpm although some dry holes are reported.

The unconsolidated glacial deposits of Pleistocene age overlie the consolidated rocks of Pennsylvanian age. In the upland areas the glacial deposits consist chiefly of clayey to sandy-clay till. Along the Wabash River and some of its tributaries are sizable deposits of glaciofluvial sand and gravel laid down during the time the Wabash valley was the major discharge channel for meltwater from glaciers farther to the north. These deposits are an important source of ground water for domestic, stock, industrial, and irrigation supplies and are the source used for public supplies by the towns and cities in the county, with the exception of the town of Dugger, which obtains its water from similar deposits along a tributary of White River in Greene County. Well depths range from about 45 to 75 feet; the average depth being about 55 feet. Yields from these wells range from 3 to better than 1,000 gpm depending upon well construction.

Lacustrine deposits and till of Pleistocene age with interbedded lenses and thin sheet-like deposits of sand and gravel are present in Sullivan County as shown on plate 2. Lake sediments consisting chiefly of silt and clay are found in the preglacial valley of the Wabash River and its tributaries. They overlie bedrock or are interbedded with or overlie glaciofluvial sand and gravel associated with the Wabash valley discharge channel. In the upper reaches of the preglacial tributaries of the Wabash River, sand and gravel deposits are interbedded with clayey or sandy-clay till. In some places the till interfingers with lacustrine deposits.

The sand and gravel lenses and thin sheet-like deposits associated with lake sediments and till are not used extensively as a source of ground water, but they may be a potential source for small domestic and stock supplies. Well depths range from about 40 to 120 feet and yields from these wells range from 0.5 to 30 gpm. At the present time, the majority of wells drilled in these areas pass through the sand and gravel deposits and tap the Pennsylvanian bedrock.

Deposits of Recent age in Sullivan County are thin and consist of alluvium, wind-blown sand, and organically rich sand, silty, and clay. These deposits are not important as sources of ground water.

Plate 2 shows availability of ground water in the consolidated and unconsolidated rocks underlying the county. In addition, plate 3 shows generalized quality of water conditions in the consolidated and unconsolidated rocks with respect to hardness. The hardness of water from wells and springs ranges from near 0 to about 2,500 ppm; the average being about 220 ppm. This map also shows areas where the chloride and sulfate contents exceed the limits for these constituents recommended by the U. S. Public Health Service (1946). The chloride content ranges from near 0 to about 4,500 ppm; the average being about 90 ppm and the sulfate content ranges from about 5 to about 3,300 ppm; the average being about 70 ppm. The averages were computed after discarding those analyses having extremely high hardness, or chloride or sulfate contents (over 1,000 ppm), which were a small percentage of the total analyses.

### CONFINED AND UNCONFINED CONDITIONS

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

### TYPES OF WELLS

Drilled wells are the principal type of water wells used in Sullivan County. However, a small number of driven and dug wells are still in use and occasionally a well is constructed by one of these methods. A few wells have been drilled by the rotary or reverse-rotary methods. Most water wells are 6-inches or more in diameter and are constructed by the cable-tool or percussion method of drilling. When the water-bearing material is consolidated rock, the well casing is generally driven a few inches to several feet into the rock, and the well is finished as an open hole in rock. If the water-bearing material is sand and gravel, the well casing is driven into the water-bearing zone and either left as an open-end casing, or the lower end of the casing is slotted or perforated, or a well screen is set opposite the water-bearing zone below the end of the casing. A modification of the above type, the gravel-packed well, has a gravel lining between the well screen and the water-bearing material.

In Sullivan County most municipal supply wells, some irrigation wells, and one large industrial well are equipped with well screens. The majority of the irrigation wells have slotted or perforated casing. Most domestic and stock wells tapping sand and gravel do not use a screen but are finished with an open-end casing or slotted or perforated casing. Greater dependability and improved yield of wells in the coarser unconsolidated materials and development of wells in the finer unconsolidated materials is possible with the construction and use of properly screened wells.

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

Oil or gas explorations, test holes, drain holes and holes drilled for purposes other than water supply are drilled by either the cable-tool or rotary method in Sullivan County.

#### SUMMARY

Preliminary evaluation of the basic data shows that adequate quantities of ground water are generally available for domestic and stock use, and in some places for small industrial and small public supplies from the rocks of Pennsylvanian age. In the sand and gravel of Pleistocene age, along the Wabash River and some of its major tributaries, ground water is available in adequate quantities for domestic, stock and locally for industrial, irrigation, and public supplies. These sand and gravel deposits are the source of the large yield wells in Sullivan County. Interbedded sand and gravel in lake sediments and till contain ground water in adequate quantities for domestic, stock, and possibly for industrial supplies.

The quality of the water from the rocks of Pennsylvanian and Pleistocene ages varies greatly. In most of the county the iron content and, locally, either the chloride or sulfate contents exceed the U. S. Public Health Service (1946) drinking-water standards.

#### RECORDS

The records of about 1,270 water wells and holes drilled for purposes other than water supply are given in table 1. The table gives information about well construction, water levels, yields and drawdowns, thickness and characteristics of the water-bearing material, conditions of occurrence, use, and other data. The altitude of the land surface at all wells, except oil or gas tests, was interpolated from topographic maps. Altitudes of oil or gas test holes were on the records when received and were checked against the topographic maps.

Table 2 contains the selected logs of about 617 wells and other drilled holes. This table gives the drillers' description of the material encountered, pertinent remarks with regard to the material, and tentative interpretation by the authors of the geologic age of the material. The logs contain local terms used by drillers in describing the material penetrated. The most used term "slate", refers to a hard, usually black, fissile shale. The term "bottoms" is applied to the underclay found beneath coals. "Gumbo" is a smooth, sticky clay. The "red rock" is a red to maroon shale which is a prominent marker-bed in the rocks of Late Pennsylvanian age. "Soapstone" is a smooth, slippery shale. Iron pyrite in nodules or thin seams associated with coal is known as

"sulfur". "Shells" or "shelly" is used to designate marine fossils in a rock. A dark-gray, sandy-shale associated with one of the Pennsylvanian coals is known as the "dirty band".

The results of 253 field chemical analyses of well waters are given in table 3. These analyses were made in the field office of the U. S. Geological Survey. Table 3 gives information about geologic source, temperature, concentration in ppm (parts per million) of iron, alkalinity (expressed as bicarbonate), sulfate, chloride, and hardness of water. The U. S. Public Health Service (1946) drinking-water standards states that the chemical constituents should not exceed the following concentrations: iron and manganese (together), 0.3 ppm; sulfate, 250 ppm; chloride, 250 ppm. No standards have been established for hardness of water; however, the following classification is generally used: 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.

The records of 3 springs are given in table 4. This table gives information about geologic sources, yield, use, temperature of the water, and the results of field chemical analyses.

Table 5 gives the results of 25 field chemical analyses of water from streams in Sullivan County with other data.

Water levels in 4 observation wells in Sullivan County are given in table 6. The water levels in three of these wells were obtained by recording gages and in the other well by measurements made with an engineer's steel tape. Daily high water levels are given for observation wells equipped with recording gages and periodic water levels are given for the observation well which was measured manually. The locations of these observation wells are shown on plate 1.

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Table 1.--Records of wells, Sullivan County, Indiana

Well number: See text for description of well-numbering system.  
 Altitude: Altitude of land-surface datum from topographic map.  
 Type of well: Dn, driven; Dr, drilled; Du, dug; J, jetted.  
 Finish: Gp, gravel pack; Oo, open end; Oh, open hole; Ls, limestone; S, sand; Sd-La, sandy limestone; C, coal; F, fireclay; G, gravel; La, limestone; Sh, shale; Sh-Ss, shaly sandstone; Ss, sandstone; T, till.  
 Material: C, cement; L, log; Lm, log on file; La, log on file; Lam, log on file; G, gamma-ray log on file; Im, log from memory in Table 2; S, sample study in from memory on file; Lm, log from memory in Table 2; S, sample study in Table 2; Sa, sample study on file; W, water-level measurements in Table 6; Cd, drawdown; Gpm, gallons per minute.  
 Geologic age: Pl, Pleistocene; P, Pennsylvanian.  
 Ground-water occurrence: C, confined (artesian); U, unconfined (water table).  
 Water level: In feet below land-surface datum on date of completion of well, except as noted in remarks. P, flowing well.  
 Use: D, domestic; Do, destroyed; Dh, drain hole drilled into mine opening, except as noted in remarks; I, industrial; Ir, irrigation; N, not used; O, observation; Og, oil or gas; P, public supply; S, stock; T, test.  
 Remarks: A, field chemical analysis in Table 3; E, electric log on file; G, gamma-ray log on file; L, log in Table 2; La, log on file; Lam, log from memory on file; Im, log from memory in Table 2; S, sample study in Table 2; Sa, sample study on file; W, water-level measurements in Table 6; Cd, drawdown; Gpm, gallons per minute.

Well No.	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land-surface (feet)	Diameter (inches)	Depth of casing (feet)	Finish	Water-bearing zone				Water level (feet)	Yield (gpm)	Date	Remarks
										Depth to top (feet)	Thickness (feet)	Material	Geologic age				
5/10W-3K1	Mitchell-Green		5-19-49	425	Dr	807											
6/SW-1R1	Carter Oil Co.	Carter Oil Co.	3-31-37	488	Dr	30											Illinois Mid-Continent Co.
2R1			3-31-37	497	Dr	50											La
JAI			3-31-37	540	Dr	50											La
4A1			3-31-37	539	Dr	40											La
4R1			3-31-37	625	Dr	50											La
5A1			4-1-37	515	Dr	40											La
5D1	R. Kinderman	H. R. Knox	3-4-48	495	Dr	85	7	25	Oh					3			D, S, La, A
5N1	Carter Oil Co.	Carter Oil Co.	3-30-37	492	Dr	30											La
8N1			3-29-37	540	Dr	40											La
9D1			3-30-37	575	Dr	40											La
9N1			3-29-37	523	Dr	30											La
9Q1	S. Langacker	V. Hayden	3-29-37	600	Dr	140		24	Oh								N, L; dry hole
10R1	Carter Oil Co.	Carter Oil Co.	3-29-37	614	Dr	47											La, A
11D1			3-31-37	545	Dr	50											La
11R1			3-29-37	570	Dr	55											La
12Q1			6-8-59	550	Dr	140	7	43	Oh								La, A
14A1			3-12-37	510	Dr	50											La, A
14R1			3-12-37	565	Dr	40											La, A
14S1			3-12-37	575	Dr	50											La, A
16R1			3-12-37	525	Dr	40											La, A
17Q1	J. D. Lohano	H. R. Knox	3-4-48	505	Dr	182	7	22	Oh								D, S, La, A
17R1	Carter Oil Co.	Carter Oil Co.	3-16-37	490	Dr	80											La
18C1	M. Granholm		8-10-54	530	Dr	98											La, A
18C2	J. Hergib	H. R. Knox	11-20-42	545	Dr	78	8	20	Oh					0.3			D, S, La, A
18D1			11-14-42	550	Dr	80	6	5	Oh					20			La
18E1			8-6-43	528	Dr	152											La
18P1	P. Roschup	H. R. Knox	4-24-50	515	Dr	191	7	40	Oh								La; well plugged back to bottom of dug well; too much gas in well
18R1	Carter Oil Co.	Carter Oil Co.	3-17-37	490	Dr	50											La
19C1	M. Granholm		8-6-54	522	Dr	62											La
19D1			8-14-54	508	Dr	47											La
19E1			8-24-54	543	Dr	80											La
19J1			8-12-54	496	Dr	122											La
19L1			8-6-54	535	Dr	46											La
19M1	Carter Oil Co.	Carter Oil Co.	3-9-37	525	Dr	40											La
19N1	M. Granholm		7-25-54	529	Dr	66											La
19Q1	H. Koonig			531	Dr	23											La; Observation well Sullivan

Table 1.--Records of wells, Sullivan County, Indiana--Continued

Well No.	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land surface (feet)	Diameter (inches)	Depth of casing (feet)	Finish	Water-bearing zone					Yield (gpm)	Use	Remarks
										Depth to top (feet)	Thickness (feet)	Material	Geologic age	Ground-water occurrence			
8/W-2081	R. Ballaved	H. R. Knox	9-47	520	Dr	193	7	27	Oh	46	7	Ls	P			Ls, A	
2081	Carter Oil Co.	Carter Oil Co.	3-9-37	490	Dr	40				58	10	Sh	P			O. A. Thayer 1; La	
2101	Beckel and Lucas	O. A. Thayer	10-11-31	515	Dr	759										La	
2102	Carter Oil Co.	Carter Oil Co.	3-9-37	495	Dr	40										La	
2103			3-8-37	550	Dr	80										L	
2201			3-8-37	560	Dr	80										L	
2202			3-8-37	565	Dr	40										L	
2481			3-10-37	530	Dr	40										L	
2581			3-10-37	500	Dr	40										L	
2681			3-10-37	540	Dr	40										L	
2682			3-8-37	515	Dr	40										L	
2683			3-12-37	485	Dr	40										L	
2881			3-9-37	520	Dr	40										L	
2901	R. B. Gilbert	Made Connelly & Co.	4-25-31	475	Dr	921										La	
2901	R. Granholm	and O. A. Thayer	8-12-54	478	Dr	77										E	
2901	Carter Oil Co.	Carter Oil Co.	3-9-37	470	Dr	40										La	
3001	R. Granholm	Carter Oil Co.	8-7-54	500	Dr	34										E	
3011			8-18-54	462	Dr	32										E	
3011			8-7-54	491	Dr	21										E	
3091			8-12-54	488	Dr	46										E	
3101			9-20-54	466	Dr	120										E	
3101			9-20-54	506	Dr	62										E	
3181			3-11-37	489	Dr	40										La	
3201			3-11-37	460	Dr	40										La	
3201	K. Granholm		9-21-54	471	Dr	75										E	
3281			9-21-54	473	Dr	91										E	
3301			3-11-37	520	Dr	40										La	
3401			3-9-37	525	Dr	40										La	
3491			3-11-37	550	Dr	40										La	
3491			3-11-37	550	Dr	40										La	
3581			3-12-37	475	Dr	40										L	
3581			3-12-37	475	Dr	40										L	
3581			3-12-37	480	Dr	40										L	
3581			3-12-37	470	Dr	831										L	
6/30-101	Mr. Koyser	O. A. Thayer	1-16-33	470	Dr	831										O	
101	Carter Oil Co.	Carter Oil Co.	3-30-37	490	Dr	40										L	
241	F. Bowen	L. E. Jordan	9-21-48	500	Dr	99	7	25	Oh	28	36	Sh	P			L	
201	L. Carrico	H. R. Knox	8-1-52	460	Dr	95	10	20	Oh	35	17	Ss	P			L, A	
202	A. Wilcox		7-27-42	460	Dr	154	6	21	Oh	74	21	Ss	P			L	
203			7-20-40	435	Dr	105	5		Oh	30	5	Ss	P			La	
301	Indiana State Highway Department		2-4-57	441	Dr	64										L	
302			2-4-57	438	Dr	38										La	
401	H. Granholm		3-5-54	471	Dr	242										E	
401			3-7-54	460	Dr	262										E	
481			1954	442	Dr	167										E	
541			2-18-54	476	Dr	272										E	
501			8-17-54	489	Dr	197										E	
502			6-28-54	485	Dr	257										E	
501			3-2-54	491	Dr	212										E	
501			3-9-54	475	Dr	272										E	
502			3-7-54	479	Dr	272										E	
501			1954	488	Dr	227										E	
501			4-54	480	Dr	272										E	
501			10-47	470	Dr	302	6	9		9	6	Sh	PI			L	
502	Town of Carlisle	Sutherland Bros.	2-23-54	489	Dr	302	6	9		9	6	Sh	PI			E	
502	M. Granholm		1954	472	Dr	257										E	





Table 1. --Records of wells, Sullivan County, Indiana--Continued

Well No.	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land surface (feet)	Diameter (inches)	Depth of casing (feet)	Finish	Water-bearing zone				Water level (feet)	Yield (gpm)	Use	Remarks
										Depth to top (feet)	Thickness (feet)	Material	Geologic era				
6/9W-2231	F. Shoffler	H. R. Knox	2-1-54	485	Dr	150	8	31	P		45	2	C	Sh	P	N	
2232	M. Granbols		7-18-54	466	Dr	107	7	100			67	25	Sd	Sh	P	T	
2233	Carter Oil Co.		3-10-37	480	Dr	40										T	
2234	M. Granbols		7-6-54	487	Dr	118										T	
2235			7-17-54	487	Dr	84										T	
2236			1954	486	Dr	197										T	
2237	J. Harris		10-8-42	485	Dr	188			Oh		85	15	Ss		P	N	
2238	Mr. Collins		10-14-42	475	Dr	175	7	60	Oh		58	3	La		P	D, S	L, A
2239	C. Hoke		12-12-50	475	Dr	83	7	59	P		68	8	Sb		P	D, S	L, A
				475	Dr	83	5	83			64	7	S, G		P	D, S	L, A
2240	J. Van Meter		11-14-53	465	Dr	71	5	69	Oh							D	L, A
2241	A. Granbols		7-18-54	400	Dr	77										T	F, L
2242	Carter Oil Co.		3-10-37	485	Dr	40										T	F, L
2243	M. Granbols		7-25-54	498	Dr	61										T	E
2244			9-10-54	479	Dr	122										T	E
2245			8-17-54	475	Dr	107										T	E
2246			8-18-54	480	Dr	137										T	E
2247			9-11-54	512	Dr	137										T	E
2248			8-13-54	545	Dr	167										T	E
2249			3-17-36	530	Dr	50										T	E
2250	Carter Oil Co.		8-12-51	529	Dr	77										T	E
2251	M. Granbols		9-17-54	504	Dr	132										T	E
2252			9-11-54	494	Dr	107										T	E
2253			9-12-54	493	Dr	107										T	E
2254			7-15-54	495	Dr	197										T	E
2255	A. Hendy		11-21-53	520	Dr	174	7	22	Oh		80	11	Ss		P	O	L; observation well
				520	Dr	174	7	22			100	32	Ss		P	O	L; Sullivan 2; W
2256	M. Granbols		9-15-54	521	Dr	150										T	F, E
2257			9-14-54	527	Dr	68										T	F, E
2258			9-13-54	528	Dr	151										T	F, E
2259			8-12-54	525	Dr	60										T	F, E
2260	Carter Oil Co.		3-10-37	520	Dr	40										T	F, E
2261	M. Granbols		8-12-54	518	Dr	49										T	F, E
2262			8-14-54	498	Dr	137										T	F, E
2263			7-15-54	526	Dr	77										T	F, E
2264	L. E. Jordan		5-20	480	Dr	180	6	20	Oh							T	F, E
2265			7-15-54	522	Dr	107										T	F, E
2266	M. Granbols		7-14-54	532	Dr	122										T	F, E
2267			7-21-54	492	Dr	92										T	F, E
2268			7-21-54	465	Dr	91										T	F, E
2269			7-22-54	513	Dr	110										T	F, E
2270			7-11-54	495	Dr	122										T	F, E
2271			7-22-54	502	Dr	137										T, D	E; converted to water well
2272	Hoko (M. Granbols)		12-43	480	Dr	70	10	40	Oh		65	5	Sh		P	D	L, A
2273	J. Phogley		7-8-54	483	Dr	152	8	70								T	E
2274	M. Granbols		11-2-43	493	Dr	94	8	61	P		80	5	S		P	D	L, A
2275	R. Ridgway		10-15-52	480	Dr	125	7	94	Oh		85	9	G		P	L; well dry 11-10-57	
2276	G. Holo		10-15-52	480	Dr	125	8	87	Oh		89	2	C		P	N	
2277				480	Dr	125					105	5	La		P	N	
2278	M. Granbols		7-6-54	465	Dr	107										T	F, B, Clinco 1; La, E
2279	E. M. Goodman		10-2-49	473	Dr	60										Oh	
2280	Carter Oil Co.		3-18-37	485	Dr	1,700										T	F, E
2281	M. Granbols		7-6-54	505	Dr	137										T	F, E
2282			3-18-37	490	Dr	50										T	F, E
2283	Carter Oil Co.		7-6-54	480	Dr	227										T	F, E
2284	M. Granbols		7-8-54	489	Dr	137										T	F, E
2285			7-6-54	461	Dr	342										T	F, E
2286			7-7-54	462	Dr	212										T	F, E

Table with multiple columns containing well identifiers, dates, names, and various numerical data points. Includes sub-sections for 6/9W-28R1, 6/10W-1K1, 6/9W-1J1, and 7/8W-1J1.

Vertical text on the right side of the page, likely providing context or additional data for the well records.

Table 1.--Records of wells, Sullivan County, Indiana--Continued

Well No.	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land surface (feet)	Diameter (inches)	Depth of casing (feet)	Finish	Water-bearing zone					Yield (gpm)	Water level (feet)	Remarks
										Depth to top (feet)	Thickness (feet)	Material	Geologic age	Ground-water occurrence			
7/8*-1P4	Dr. Dukes	K. R. Knox	4-11-52	590	Dr	65	7	21	Oh		25	Ss	P			Dh	L, A
2C1	X. Hughes	-----do-----	5-14-54	580	Dr	106	7	20	Oh		27	Ss	P			D, S	L, A
2C2	D. Husbam	-----do-----	5-12-54	580	Dr	112	7	21	Oh		50	Ss	P			D	L, A
2D1	H. Gambill	-----do-----	7-9-53	540	Dr	67	7	21	Oh		57	Ss	P			D	L, A
2E1	H. N. Gambill	-----do-----	12-3-53	530	Dr	65	7	26	Oh		45	C	P			D	L, A
2/1	I. Pirk	-----do-----	9-9-54	550	Dr	88	7	10	Oh		25	Ss	P			D, S	L, A
2/2	A. Cross	-----do-----	9-4-54	570	Dr	90	0	23	Oh		29	Ss	P			N	L, A
2J1	R. Skonney	-----do-----	5-16-52	500	Dr	97	8	11	Oh		13	Ss	P			Dh	L, A
2J2	N. Holland	-----do-----	8-25-52	585	Dr	106	6	18	Oh		18	Ss	P			Dh	L, A
2J3	D. McGehee	-----do-----	8-19-52	605	Dr	108	6	20	Oh		15	Ss	P			Dh	L, A
2K1	L. Harrison	-----do-----	4-16-51	565	Dr	64	6	16	Oh		50	Ss	P			N	L, A
2K2	D. A. Allison	-----do-----	10-24-50	575	Dr	105	6	22	Oh		13	Ss	P			Dh	L, A
2R1	D. Griffith	-----do-----	7-14-50	580	Dr	64	6	16	Oh		15	Ss	P			Dh	L, A
2R2	Mr. Taylor	-----do-----	10-18-50	580	Dr	90	7	---	Oh		63	Ss	P			Do	L, A
3A1	L. Hale	-----do-----	0-10-54	540	Dr	80	7	21	Oh		20	Ss	P			N	L
3A2	F. Lang	-----do-----	5-13-52	530	Dr	62	7	12	Oh		60	Ss	P			D	L, A
3A3	H. Gambill	-----do-----	7-6-53	530	Dr	67	7	31	Oh		47	C	P			D	L, A
5E1	E. Boone	Spainhower & Sons	12-55	530	Dr	120	6	52	Oh		5	S	P1			Dh	L, A
5H1	G. Eash	-----do-----	8-17-35	525	Dr	105	---	34	P, Oh		21	S	P1			OK	L, A
6L1	J. Dukes	V. Dalton	9-10-58	505	Dr	102	0	---	---		80	C	P			L	L, A
8E1	M. A. Dunder	-----do-----	4-8-44	490	Dr	131	0	63	Oh		71	C	P			D	L, A
9A1	X. Boone	Spainhower & Sons	1-1-56	520	Dr	75	6	22	Oh		---	---	---			D	L, A
9D1	D. Hildonbrand	F. Hayden	---	460	Dr	65	6	46	Oh		55	0	Ss			D	L, A
10C1	Naumoo Collieries	M. L. Biecard	---	525	Dr	122	7	77	Oh		95	27	Ss			N	L, A
10N1	-----do-----	-----do-----	---	565	Dr	125	6	23	Oh		---	---	---			Dh	L, A
10P1	G. Sheffler	H. Ellis	8-57	560	Dr	125	6	40	Oh		---	---	---			Dh	L, A
12C1	Mrs. Lishor	K. R. Knox	9-25-51	590	Dr	64	6	21	Oh		77	---	---			Dh	L, A
12D1	Kroger Co.	-----do-----	7-8-53	585	Dr	---	---	---	Oh		---	---	---			T	L, A
12D2	Dugger Mine	-----do-----	---	600	Dr	---	---	---	Oh		---	---	---			T	L, A
14J1	K. Smith	M. L. Biecard	---	560	Dr	148	8	59	Oh		---	---	---			N	L
14K1	V. Daltor	-----do-----	---	605	Dr	272	---	67	Oh		65	---	---			De	L
15C1	Naumoo Collieries	-----do-----	---	580	Dr	105	0	67	Oh		8	Ss	P			P	L, A
15G1	D. F. Willis	H. Ellis	11-8-50	550	Dr	283	7	---	Oh		58	14	Ss			De	L
15G2	-----do-----	-----do-----	1-3-51	550	Dr	111	10	74	Oh		100	11	Ss			N	L
15Q1	Mr. Strum	M. L. Biecard	---	585	Dr	122	8	81	Oh		83	4	Ss			De	L
18H1	C. Bedwell	-----do-----	9-13-49	525	Dr	2,460	---	---	---		---	---	---			OK	L, A
18P1	O. Hays	V. Hayden	7-3-59	560	Dr	50	8	25	Oh		20	30	Ss			OK	L, A
18K1	L. Bohms	Spainhower & Sons	10-55	560	Dr	38	8	10	Oh		25	10	Ss			D	L, A
18L1	Carter Oil Co.	Spainhower & Sons	4-5-37	520	Dr	50	---	---	---		---	---	---			T	L, A
18M1	F. Morin	L. V. Jordan	4-7-37	565	Dr	158	7	29	Oh		100	59	Ss			T	L, A
20M1	Carter Oil Co.	Carter Oil Co.	4-7-37	565	Dr	50	---	---	---		---	---	---			T	L, A
20N1	-----do-----	-----do-----	5-6-49	560	Dr	50	---	---	---		---	---	---			T	L, A
25P1	D. Pahrator	K. R. Knox	4-1-37	585	Dr	40	---	---	---		---	---	---			Dh	L, A
25R1	Carter Oil Co.	Carter Oil Co.	4-1-37	585	Dr	40	---	---	---		---	---	---			T	L, A
27A1	-----do-----	-----do-----	9-4-36	540	Dr	826	---	---	---		---	---	---			OK	L, A
29J1	S. E. Watays	Nelson Bros.	12-2-35	550	Dr	824	---	---	---		---	---	---			OK	L, A
29F1	D. Holden	-----do-----	1-17-36	550	Dr	1,057	---	---	---		---	---	---			OK	L, A
29L1	G. S. Blakeman	-----do-----	4-1-37	500	Dr	40	---	---	---		---	---	---			OK	L, A
29R1	Carter Oil Co.	Carter Oil Co.	---	500	Dr	---	---	---	---		---	---	---			T	L, A



Table 1.--Records of wells, Sullivan County, Indiana--Continued

Well No.	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land surface (feet)	Diameter (inches)	Depth of casing (feet)	Finish	Factor-bearing zone				Yield (gpm)	Use	Remarks
										Depth to top (feet)	Thickness (feet)	Material	Geologic age			
7/8W-171A	M. Granholm		2-13-54	474	Dr	131										
18A1	do		2-13-54	501	Dr	150										
18D1	H. R. Knox		8-13	520	Dr	262	8	20	Oh							
18P1	J. Hoover		3-17-54	505	Dr	945										
18Q1	M. Granholm		1-30-54	487	Dr	148										
20A1	do		2-1-54	472	Dr	107										
20B1	do		2-1-54	474	Dr	124										
20F1	do		2-7-54	461	Dr	122										
20J1	H. Dodds	V. Hayden		460	Dr	94	11	85	Oh							
							8	54								
20R1	M. Granholm		1-25-54	453	Dr	122										
21E1	do		2-8-54	465	Dr	107										
21F1	W. Shrus	L. L. Jordan		450	Dr	308	7	69	Oh							
21K1	M. Granholm		2-1-54	452	Dr	85										
21M1	W. Wilson	H. R. Knox	10-16	450	Dr	90	8	90	Oh							
21P2	M. Granholm		1-25-54	445	Dr	107										
22Q1	D. Rockenfild	H. R. Knox	9-16	465	Dr	97	7	19	Oh							
22Q2	R. Rockenfild		8-12	465	Dr	43	6	22	Oh							
23E1	A. Nash		8-19-54	455	Dr	315			Oh							
23K1	Piggs Community		3-16-58	472	Dr	1,207										
23L1	D. J. Nash		12-21-51	465	Dr	1,216										
24G1	C. Banther		8-3-56	504	Dr	660										
25E1	H. Ashcraft	H. R. Knox	5-17	540	Dr	78	7	18	Oh							
26E1	C. Hancock		1-11-55	510	Dr	78	7	17	Oh							
26E2	M. McKinley		9-3-54	515	Dr	72	7	20	Oh							
26G1	L. Blatt		9-1-54	510	Dr	101	6	21	P							
26N1	F. L. Lang	L. E. Jordan		495	Dr	51	7	19	Oh							
27D1	C. Rodger	H. R. Knox	10-46	450	Dr	67	7	21	Oh							
27H1	E. C. Pope		8-14	485	Dr	62	7	20	Oh							
27L1	A. Nash		1-46	480	Dr	78	7	22	Oh							
27R1	A. Snyder		1-11-55	500	Dr	152	7	22	Oh							
			1-46			80										
28N1	E. Banther		1-15-55	450	Dr	108	6	77	Oh							
28Q1	M. Granholm		1954	450	Dr	137										
29F1	do		1-54	455	Dr	88										
29K1	do		1954	455	Dr	212										
29Q1	do		2-15-54	455	Dr	272										
30A1	do		1-26-54	483	Dr	112										
30C1	do		1-27-54	486	Dr	170										
30F1	do		1-18-54	484	Dr	152										
30G1	H. Hart	H. R. Knox	2-11-52	480	Dr	150	7	71	Oh							
30J1	M. Granholm		1-18-54	469	Dr	95										
30Q1	do		1-20-54	478	Dr	147										
31D1	do		2-14-54	482	Dr	272										
31K1	do		1954	482	Dr	154										
31R1	do		8-17-54	488	Dr	227										
32D1	do		1-19-54	480	Dr	212										



Table 1.--Records of wells, Sullivan County, Indiana--Continued

Well No.	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land surface (feet)	Diameter (inches)	Depth of casing (feet)	Filling	Water-bearing zone					Yield (gpm)	Remarks	
										Depth to top (feet)	Thickness (feet)	Material	Geologic age	Ground-water occurrence			
7 109-10C1 10D1	P. Elliott J. Eaton	C. Ottlinger H. R. Knox	8-27-32 4-15	487 486	Dr Dr	837 189	8	45	Oh	60 93 117	2 18 68	Ls Ss Ss	P P P	C	OK S	Ottlinger and Burgin 1; L	
10E1	M. Granhola		11-3-33	476	Dr	192											
10F1			12-3-33	512	Dr	107											
10N1			11-4-33	486	Dr	198											
10N2	R. Coon	Superior Drilling Corp.	7-13-33	480	Dr	87											
10P1	M. Granhola		11-18-33	511	Dr	257											
11A1	T. Davidson	O. A. Thayer	8-6-48	510	Dr	567											
11B1	L. W. Eaton	C. Ottlinger	6-18-59	520	Dr	1,352											
11M1	W. B. Springer	O. A. Thayer	9-10-48	505	Dr	836											
11M2	J. K. Coatsion		12-13-51	513	Dr	882											
12Q1	J. B. Schloot	Texas Gas Transmission Corp.	5-25-48	535	Dr	655											
13N1	M. Pirtle	H. R. Knox	4-4-46	510	Dr	98	7	32	Oh	68 78 112	8 13 38	Ss Ss Ss	P P P	C	S	Ottlinger and Burgin 1; L	
13Q1			8-4-32	508	Dr	160	0	44	Oh								
13R1	M. Granhola		1-30-53	508	Dr	107											
14N1	W. Lambeth		1-19-56	476	Dr	1,042											
14R1	M. Granhola		2-12-54	512	Dr	143											
15C1	R. Coon	Superior Drilling Corp.	2-8-53	480	Dr	835											
15D1	L. Crood	C. Ottlinger	9-23-58	485	Dr	869	7	53	Oh	160	24	Ss	P				
15G1			7-22-48	495	Dr	287											
15L1	M. Granhola	H. R. Knox	11-17-53	488	Dr	139											
15M1	F. Pierston		7-1-36	485	Dr	855											
16D1	H. E. Shorter	V. Hayden		465	Dr	78											
16D2	J. McKinley	H. R. Knox	10-15-41	460	Dr	105	6	82	Oh	95	24	Ss	P				
16E1	A. Gettinger		7-29-52	460	Dr	119	7	82	Oh								
16L1	M. Granhola		1-7-54	470	Dr	187											
16R1	B. Bogard	C. Ottlinger	5-15-52	471	Dr	878											
17A1	M. Granhola		11-19-53	479	Dr	212											
17D1			11-13-53	510	Dr	212											
17G1	P. Cooper	V. Hayden	11-13-53	480	Dr	93	8	30	P	48	12	Ss-Sl	P				
17K1	M. Granhola		12-10-53	470	Dr	150	7	55									
17N1	G. Jackson	H. R. Knox	2-4-55	495	Dr	88	7	42	Oh	64	19	Ss	P				
17R1	M. Granhola		11-13-53	475	Dr	224											
18C1	Merem School	H. R. Knox	6-4-44	550	Dr	119	10	41	Oh	44	4	Ls	P				
18C2	W. Coyner		6-4-47	530	Dr	60	8	46	Oh	52	2	Ss	P				
18C3	W. Renaker		5-4-45	550	Dr	75	8	39	Oh	70	5	Ss	P				
18C4	L. Turpalo		3-4-55	530	Dr	70	6	45	Oh	45	15	Ss	P				
18C5	V. Nichols		10-6-43	530	Dr	118	6	40	Oh	100	18	Ss, Ls	P				
18C6	A. Pirtle			545	Dr	53	6	42	Oh	40	7	Ss, C	P				
18C7	Merem School		19-43	530	Dr	214	10	44	Oh	90	27	Ls, C	P				
18D1	D. Lench		9-4-43	560	Dr	87	8	38	Oh	58	23	Ss	P				
18D2	Indiana Department of Conservation, Geological Survey	Geological Survey	3-4-54	438	Dr	440											
18E1	Town of Merem	Sutherland Bros.	1948	435	Dr	52	10	52	S	50	22	S, G	P1	C	50	P	Loess, clay, silty, 0-30 ft. sand and gravel 30-52 ft.; 20 ft. no. 60 silt screen
19K1	M. Granhola		1-3-54	535	Dr	187											
20A1	J. M. Hopper		6-1-50	487	Dr	2,821											
20B1	W. Granhola		11-18-55	485	Dr	212											
20F1			11-15-53	404	Dr	77											
21A1	W. D. and V. Scott	Clemens & Lewis	2-25-52	474	Dr	624											
21B1	M. Granhola		1-4-54	447	Dr	180											
21D2	L. Creed		3-25-52	465	Dr	924											
21K1	M. Granhola	C. Ottlinger	1-4-54	483	Dr	212											



7/10W-21K3

ID	Company/Name	Product	Quantity	Weight	Value	Notes
2111	R. McKain	Dr	480	875	8-11-56	G. Miller, Inc. 1; La. E
2112	M. Granholm	Dr	452	205	1-5-56	L. A
2181	V. Eaton	Dr	473	49	5-24-57	L. A
2201	M. Granholm	Dr	453	212	1-6-54	K. R. Kuhn and L. Batterson 1;
2211	M. Granholm	Dr	470	152	8-54	La. E
2231	M. Granholm	Dr	400	114	8-57	L. A
2301	F. Bruner	Dr	308	122	2-13-54	L. A
2311	M. Granholm	Dr	515	757	10-16-52	E. M. Craft 1; La. E
2321	J. Hall and P. Monroe	Dr	318	77	2-14-54	L. A
2331	M. Granholm	Dr	483	165	1-26-54	L. A
2411	M. Granholm	Dr	507	186	1-24-54	L. A
2581	C. Cran	Dr	505	132	3-29-48	L. A
2561	M. Granholm	Dr	500	137	1-13-54	L. A
2581	M. Granholm	Dr	500	122	1-13-54	L. A
2591	M. Granholm	Dr	469	136	1-20-54	L. A
2591	M. Granholm	Dr	484	158	1-21-54	L. A
2681	E. V. W. and E. Cole	Dr	484	1,316	8-17-52	L. A
2681	M. Granholm	Dr	471	152	1-18-54	L. A
2691	M. Granholm	Dr	466	125	1-21-54	L. A
2731	M. Granholm	Dr	475	107	1-12-54	L. A
2791	M. Granholm	Dr	451	136	1-12-54	L. A
2811	H. Jones	Dr	440	51	10-26-49	L. A
2821	M. Granholm	Dr	437	851	8-16-54	L. A
2831	H. R. Knox	Dr	440	53	1-47	L. A
2911	Loland Pughley	Dr	435	43	7-15-58	L. A
2921	Sullivan County Water Co.	Dr	435	46	1913	L. A
2952	Holdt-Monroe Co.	Dr	435	49	0-55	L. A
34A1	M. Granholm	Dr	462	156	1854	L. A
3471	M. Granholm	Dr	437	66	1-54	L. A
3511	M. Granholm	Dr	448	116	1-18-54	L. A
3611	M. Granholm	Dr	475	152	2-5-54	L. A
3681	M. Granholm	Dr	467	277	3-54	L. A
7/11W-1C1	B. Riggs	Dr	431	666	7-19-54	L. A
1C2	G. Gentry	Dr	422	917	10-4-53	L. A
8/8W-2H1	R. Denson	Dr	547	113	12-2-51	L. A
7H2	The Pure Oil Co.	Dr	520	103	5-50	L. A
7H3	R. Dodd	Dr	510	54	4-6-38	L. A
7J1	B. Pigs	Dr	515	54	5-7-41	L. A
7L1	F. C. Linton	Dr	485	571	8-9-46	L. A
10N1	B. and S. Raines	Dr	511	177	5-7-51	L. A
12C1	Jackson Hill Coal & Coke Co.	Dr	578	2,268	1-33	L. A
1411	O. Rath	Dr	550	208	12-3-54	L. A
17H1	C. Fulford	Dr	535	51	7-52	L. A
17H1	Esker Mine	Dr	480	65	8-31-44	L. A
17S2	M. Stone	Dr	550	68	0-5-44	L. A
18L1	V. Hayden	Dr	505	121	1947	L. A
19C1	R. McLoach	Dr	500	113	1047	L. A
20R1	J. E. Fleming	Dr	575	85	1947	L. A
24N1	C. S. Pato	Dr	550	93	11-11-53	L. A
30D1	Tompleton Coal Co.	Dr	477	450	5-31-53	L. A
31H1	R. Haspion	Dr	500	65	5-31-53	L. A
31K1	B. McKinnon	Dr	500	40	0-47-52	L. A
33S1	B. Anderson	Dr	550	72	4-22-49	L. A
34C1	F. Reuss	Dr	335	80	7-44	L. A
34J1	O. D. Singleton	Dr	575	88	12-5-53	L. A
34P1	Appraire Collieries Corp.	Dr	375	60	6-24-53	L. A
34R1	H. B. Mitchell	Dr	575	86	11-44	L. A
35H1	J. Cox	Dr	560	02	12-8-53	L. A
35K2	E. Wherry	Dr	575	07	9-30-54	L. A
36H1	Sherwood-Templeton Coal Co.	Dr	540	494	8-29-59	L. A
36N1	H. Headley	Dr	550	85	2-15-49	L. A
8/9W-1R1	R. A. and N. Welch	Dr	520	120	49	L. A
3B1	W. and N. Reed	Dr	539	2,367	49	L. A

8/9W-1R1

3B1

Table 1.--Records of wells, Sullivan County, Indiana--Continued

Well No.	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land surface (feet)	Diameter (inches)	Depth of casing (feet)	Finish	Water-bearing zone				Water level (feet)	Yield (gpm)	Use	Remarks
										Depth to top (feet)	Thickness (feet)	Material	Geologic age				
8/98-411	Ponbody Coal Co.		7-1-11	510	Dr	319											L
4M	-do-		7-11	539	Dr	324											L
501	A. Gill, Jr.	V. Hayden	8-10-52	540	Dr	80	8	21	Oh								L, A
501	R. Myran		8-10-52	540	Dr	874											L, A
501	Hyden and Payne	C. Ottlinger	8-23-53	532	Dr	783											L, A
501	J. Shields	-do-	10-20-52	524	Dr	734											L, A
5E2	-do-		7-31	505	Dr	1,057											L, A
5G1	E. McCracken	V. Hayden	4-15-52	534	Dr	2,388	8	33	Oh								L, A
5H1	E. Gorman	-do-		500	Dr	31	8	30	P								L, A
6C1	R. Navin	-do-		500	Dr	40	6	40	Oh								L, A
6C2	-do-	Sapphire American Petroleum, Inc.	4-7-53	507	Dr	1,101											L
6F1	-do-	-do-	10-7-53	510	Dr	681											L
6H1	Knowels and Riggs		12-10-39	510	Dr	2,429											L
7H1	J. Pastor	V. Hayden	1052	510	Dr	90	9	34	P								L, A
7K1	Conner, Mann, and Pinkston		6-9-54	522	Dr	832											L, A
8N1	O. Pinkston	V. Hayden	1947	520	Dr	82	6	22	Oh								L, A
8R1	M. Campbell	H. R. Knox	6-45	530	Dr	275	8	48	Oh								L, A
9C1	B. Walters	R. R. Knox	11-12-47	514	Dr	2,384											L
10D1	Town of Shelburn		6-47	500	Dr	110	8	62	Oh								L
10D2	-do-	-do-	8-47	500	Dr	110	8	57	Oh								L
10D3	-do-	-do-	6-47	500	Dr	110	8	57	Oh								L
10D4	-do-	Layne-Northern Co., Inc.	8-18-57	495	Dr	59	8										L
10D5	Indiana State Highway Department		3-20-52	496	Dr	14											L
10E1	H. Dodd	H. R. Knox	11-46	495	Dr	55	8	55	Oh								L, A
10E2	Town of Shelburn	Layne-Northern Co., Inc.	8-21-47	490	Dr	61	8										L, A
10E3	-do-	-do-	8-26-47	490	Dr	60	6										L
10E4	V. Dodd	H. R. Knox	11-20-41	495	Dr	51	6	44	Oh								L, A
10W1	-do-	-do-	1-25-54	540	Dr	80	6	22	P								L, A
14G1	Mrs. Sattlen	-do-		515	Dr	190	7	34	Oh								L
16A1	C. Merrill	-do-	7-44	505	Dr	141	6	37	Oh								L, A
16A2	-do-	-do-		505	Dr	211	6	70	Oh								L
16H1	-do-	-do-	11-11-41	535	Dr	75	6	20	Oh								L, A
18B1	C. Woodward	O. A. Thayer	12-15-45	540	Dr	830											L, A
20G1	H. Crowder	H. R. Knox	0-44	540	Dr	244	8										L, A
20G2	-do-	-do-	1939	540	Dr	102											L
20J1	M. and J. Frakes	-do-	6-30-39	534	Dr	2,515											L
20K1	J. Gottlinger	V. Hayden		540	Dr	204	8	39	Oh								L
20Q1	H. Crowder	-do-		530	Dr	108	8	44	P, Oh								L
21I1	J. Frakes	O. A. Thayer	7-21-32	535	Dr	785											L, A
21K1	M. Frakes	-do-	7-42	515	Dr	795											L, A

B/O#	R. Barcus	V. Hayden	9-18-59	510	Dr	58	8	40	P	40	40	18	T,S,G	P1	C	12	25	D	L
23E1	A. Ralph	H. R. Knox	1941	520	Dr	83	7	58	Oh	58	---	---	Ss	P	C	13	1	N	L
23L1	H. Shipman	H. R. Knox	10-42	490	Dr	137	8	75	Oh	97	---	---	Ss	P	C	35	1	D,S	L, A
23M1	C. Thompson	V. Hayden	7-35	495	Dr	56	8	39	P	50	---	---	Ss	P	---	---	---	D	L, A
23P1	H. W. Johnson	H. R. Knox	8-19-54	500	Dr	152	7	64	Oh	100	---	---	Ss	P	---	---	---	D	L, A
23R1	J. E. Mckay	V. Hayden	10-4-55	480	Dr	122	8	100	Oh	80	---	---	Ss	P	---	---	---	D	L, A
25M1	W. Boles	H. R. Knox	7-28-29	525	Dr	398	7	80	Oh	---	---	---	Ss	P	---	---	---	D	L, A
27D1	American Legion	Demo Gas Co.	8-17	503	Dr	118	7	50	Oh	---	---	---	Ss	P	C	35	---	OK	F. F. Days 1; L
28M1	F. Foxworthy	H. R. Knox	9-1-48	503	Dr	127	8	50	Oh	---	---	---	Ss	P	---	---	---	D	L, A
29M2	W. Whittlock	V. Hayden	8-30-48	485	Dr	83	8	50	Oh	---	---	---	Ss	P	---	---	---	D	L, A
28N1	O. Bennett	H. R. Knox	7-28-48	530	Dr	1,220	8	52	Oh	---	---	---	Ss	P	---	---	---	D	L, A
28Q1	W. Bennett	H. R. Knox	8-27-52	520	Dr	788	8	43	Oh	---	---	---	Ss	P	---	---	---	OK	O. A. Thayer 1; La
29A1	B. and M. Matlik	H. R. Knox	9-3-48	511	Dr	60	8	32	Oh	---	---	---	Ss	P	C	10	7.5	N	L, A
29B1	E. Hall	O. A. Thayer	1-44	510	Dr	114	6	54	Oh	---	---	---	Ss	P	C	14	1.2	D	L, A
29Q1	C. Mayfield	V. Hayden	5-29-53	536	Dr	173	---	---	Oh	---	---	---	Ss	P	---	---	---	D	L, A
29R1	C. E. Crick	H. R. Knox	10-17-58	510	Dr	778	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
29S1	C. E. Crick	H. R. Knox	11-25-41	500	Dr	101	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 5; L
29T1	M. Whitfield	H. R. Knox	11-9-53	513	Dr	724	---	---	Oh	---	---	---	Ss	P	---	---	---	I	Creston 8B; La; water input well
30Q1	C. Walters	V. Hayden	7-3-52	537	Dr	796	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
31G1	Bicknell and Jackson	V. Hayden	8-15-53	531	Dr	782	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston and others 3B; La; water input well
31J1	W. C. Jamison	H. R. Knox	4-2-52	547	Dr	850	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
31J2	A. M. Bicknell	H. R. Knox	6-15-53	531	Dr	808	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
31K1	J. M. Thompson	H. R. Knox	4-19-57	483	Dr	2,523	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
31L1	Pinkston Community	V. Hayden & C. E. Crick	5-1-50	500	Dr	685	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
32F1	M. and F. Harcock	H. R. Knox	8-20-57	480	Dr	780	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
32F2	O. S. Oglio	H. R. Knox	5-16-57	489	Dr	827	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
32L1	W. C. Jamison	H. R. Knox	10-24-51	500	Dr	123	8	81	Oh	---	---	---	Ss	P	---	---	---	OK	Creston and others 1-A; L
32M1	W. C. Jamison	H. R. Knox	7-31-51	500	Dr	65	7	38	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
32N1	L. and G. Blackburn	H. R. Knox	8-16-48	482	Dr	882	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
32P1	W. Cox	H. R. Knox	10-17	483	Dr	205	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
32R1	G. Cox	H. R. Knox	7-1-57	490	Dr	86	6	58	P, Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
32S1	C. Leach	V. Hayden	7-38	451	Dr	4,180	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
33N1	R. Hampton	V. Hayden	12-23-47	505	Dr	115	7	38	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
33R1	J. R. Rigg	H. R. Knox	9-24-59	510	Dr	98	8	38	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
33P1	D. Phogley	V. Hayden	7-14-49	479	Dr	2,303	7	98	P	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
38R2	H. Carty	V. Hayden	10-55	480	Dr	717	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
8/10W-1A1	C. Blount	C. Whinton	1-38	497	Dr	2,280	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
1C1	M. J. Beard	The Ohio Oil Co.	8-22-32	490	Dr	2,309	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
1F1	Mr. Thompson	H. R. Knox	9-7-47	498	Dr	658	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
1H1	C. Blount	H. R. Knox	8-23-52	501	Dr	1,650	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
1W2	F. Osborn	H. R. Knox	11-17-28	478	Dr	2,360	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
1J1	F. McGrow	Wayman & Brown	4-6-47	488	Dr	2,485	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
1W1	Harris Holtz	H. R. Knox	8-20-47	490	Dr	190	7	90	P(?)	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
2J1	M. Granholm	V. Hayden	8-20-47	485	Dr	60	6	190	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
3C1	M. C. Woodard	V. Hayden	3-12-41	403	Dr	1,478	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
3C2	M. C. Woodard	V. Hayden	9-26-52	501	Dr	806	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
3D1	-----do-----	-----do-----	7-15-53	494	Dr	227	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
3D2	-----do-----	-----do-----	5-7-47	471	Dr	1,433	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
3D3	-----do-----	-----do-----	2-28-47	491	Dr	1,458	---	---	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
3F1	A. Poe	V. Hayden	500	500	Dr	289	8	28	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La
3J1	Sinclair-Traublood	V. Hayden	---	---	Dr	---	7	230	Oh	---	---	---	Ss	P	---	---	---	OK	Creston 1; La

Table 1.--Records of wells, Sullivan County, Indiana--Continued

Well No.	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land-surface (feet)	Diameter (inches)	Depth of casing (feet)	Finish	Water-bearing zone					Yield (gpm)	Use	Remarks	
										Depth to top (feet)	Thickness (feet)	Material	Geologic age	Ground-water occurrence				
8/10K-301	C. K. Walters	The Ohio Oil Co.	5-22-47	487	Dr	1,443												
401	S. Granholm		1953	506	Dr	137												
411	do		1953	475	Dr	167												
421	B. Brown	V. Hayden	1954	470	Dr	105	8	48	Oh									
431	V. and N. Hardy	The Ohio Oil Co.	3-10-47	482	Dr	1,511												
441	V. Martin	H. R. Knox	10-21-52	510	Dr	1,288	8	112	Oh									
451	R. Bragdon	Clemens Drilling Co.	1-16-52	510	Dr	1,346												
461	Bengdon (Mrs)		9-20-47	404	Dr	1,585												
471	M. Granholm		1953	506	Dr	182												
481	O. Hayden	V. Hayden	9-18-47	510	Dr	2,747												
491	G. Easter	J. J. Easter	9-6-55	508	Dr	852	8	114	Oo									
501	J. Easter	H. R. Knox	4-3-51	495	Dr	113	8	104	Oh									
511	X. Granholm	H. R. Knox	7-3-53	469	Dr	215												
521	X. Granholm	V. Hayden	7-19-45	470	Dr	75	8	73	Co									
531	B. Foutz		12-2-59	470	Dr	70	8	67	Co									
541	do			400	Dr	820												
551	C. Pirtz			470	Dr	81	8	16	Oh									
561	Eno Bros.	H. R. Knox	8-19	470	Dr	1,695												
571	J. Kraus		8-4-52	458	Dr	1,200												
581	X. Granholm		1953	470	Dr	1,184												
591	C. Masner		8-30-43	454	Dr	1,110	8	76	Oh									
601	C. Murdock	H. R. Knox	11-46	470	Dr	2,600												
611	J. Hysue		9-11	460	Dr	54	7	54	P									
621	H. Straub	V. Hayden	2-16-56	457	Dr	34												
631	Indiana State Highway Department			511	Dr	1,520												
641	R. McClure		5-10-47	481	Dr	2,030												
651	H. Hayden	V. Hayden	8-7-40	510	Dr	125	8	39	P									
661	V. Hayden			510	Dr	125	6	125										
1001	do		1950	510	Dr	321												
1002	Denson-Taylor		8-10-57	478	Dr	724												
1003	do			478	Dr	351												
1004	R. McClure	V. Hayden	1947	540	Dr	450												
1005	do		1-52	610	Dr	137												
1006	M. Granholm		1953	605	Dr	2,661												
1007	H. Sinclair		2-28	500	Dr	1,104												
1008	do		6-3-51	524	Dr	895												
1009	D. Sinclair and V. Trueblood		6-12-52	576	Dr	512												
1010	Mr. Crewe	V. Hayden	6-28-49	554	Dr	1,100												
1011	W. G. Riggs		12-25-41	552	Dr	501												
1012	do		10-29-58	520	Dr	805												
1013	L. and L. D. Pierce		9-27-56	526	Dr	724												
1014	A. Poe	C. Ottlinger	1-2-53	512	Dr	820												
1015	C. L. Wible		10-24-41	528	Dr	854												
1016	Mr. Cottinger		8-14-62	532	Dr	68	8											
1017	C. Ferrue	V. Hayden	5-18-58	515	Dr	853												
1018	do	Houglund Drilling Co., Inc.		515	Dr	877												
1019	S. and J. Moter		4-7-52	567	Dr	805												
1020	do		4-26-52	490	Dr	835												
1021	Gettlinger Farms, Inc.		10-5-56	539	Dr	1,659												
1022	do		12-18-47	543	Dr	825												
1023	C. L. Davis		5-31	540	Dr	840												
1024	Gettlinger Farms, Inc.		0-26-56	525	Dr	822												
1025	H. Fiesner		7-10-58	525	Dr	137												
1026	S. Granholm		1953	541	Dr	137												



Table 1.--Records of wells, Sullivan County, Indiana.--Continued

Well No.	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land surface (feet)	Diameter (inches)	Depth of casing (feet)	Plumb	Depth to top (feet)	Thickness (feet)	Water-bearing zone			Water level (feet)	Yield (gpm)	Use	Remarks
												Material	Geologic age	Ground-water occurrence				
8/108-2441	H. C. Hays	H. R. Knox	5-41	530	Dr	200	8	53	Oh	70	3	C	P				L	
2451	R. Houpt		5-8-50	516	Dr	771				165	13	La, Ss	P				C. Johnson and others 1; L	
2461	R. Wilkey	H. R. Knox	5-20-50	520	Dr	853			Oh	111	74	Ss	P				L, A	
2481			5-10-50	524	Dr	853											C. Johnson and others 1; La	
2541	Gettler Farms, Inc.		8-21-50	528	Dr	888											Do	
2551		H. R. Knox	6-41	540	Dr	178	10	28	Oh	47	3	La	P		0.2		La, A	
2572																		
2581	E. Huff	V. Hayden	1945	535	Dr	200			Oh								L; well pumps dry	
2591	D. Dawns	H. R. Knox	7-27-51	520	Dr	178	8	43	Oh								L, A	
2591				520	Dr	187	10	49	Oh	84	2	C	P		.2		L, A	
2591				520	Dr	187	10	49	Oh	130	33	Ss	P				W. F. Sours 2; La	
2591	E. and C. Huff		4-30-46	524	Dr	850											A. S. Reed and others 1; La	
2591	G. R. Huff		8-26-45	524	Dr	854											O. A. Thayer 1; La	
2681	R. L. Dawns	O. A. Thayer	11-28-54	520	Dr	803				44	11	Sh	P				L, A	
2681	W. Whitman	V. Hayden		500	Dr	45	7	55	P								L, A	
2691	X. Granholm		1953	512	Dr	222												
2691				503	Dr	212												
2691				487	Dr	182												
2691				481	Dr	753												
2691	C. W. Ridgeway		11-5-58	481	Dr	840												
2691			12-2-58	483	Dr	840												
2691			1947	512	Dr	188												
2691				512	Dr	188												
2692				510	Dr	194				82	8	Ss, Sh	P				L, A	
2691	N. Wilkey		3-20-46	512	Dr	814											A. S. Reed 1; L	
2701	Mr. Coppings		3-17-59	501	Dr	865											W. F. and P. E. Meier 1; L	
2701	M. Granholm		1-19-53	518	Dr	342											E. F. E.	
2711	J. Dunivan		8-24-59	480	Dr	642											W. F. and P. E. Meier 1; La	
2711	G. Watson	V. Hayden	1957	520	Dr	183											L	
2771	P. Verallison		4-45	515	Dr	126				90	4	Ss	P					
2841	M. Granholm	H. R. Knox	10-53	533	Dr	167												
2841			11-10-53	523	Dr	227												
2841			3-0-50	521	Dr	851												
2841	D. Ferrer			500	Dr	815												
2841	F. and K. Hoke		3-41	510	Dr	82				46	4	Sh, C	P		1.7		W. Miller 1; L	
2851	J. Brown	H. R. Knox	11-8-53	512	Dr	240											L, A	
2851	M. Granholm		11-1-51	475	Dr	812											W. F. and K. Hoke 3; L	
2880	C. Houpt		7-25-40	510	Dr	837												
2891	E. Evans		11-9-53	547	Dr	192												
3001	M. Granholm		3-25-41	540	Dr	56				23	3	S, G	P1				R. Anderson 1-D; La	
3002	D. Pigg	H. R. Knox	9-20-50	516	Dr	887											C. Hardin 1; La	
3041	W. and R. Mible		9-17-42	490	Dr	241												
3081	R. Mable	H. R. Knox	12-11-53	504	Dr	187												
3101	M. Granholm		12-14-53	538	Dr	197												
3101			12-21-41	540	Dr	70				47	20	S, G, T	P1		5		L, A	
3101	M. O. Pirillo	H. R. Knox	12-17-41	530	Dr	78				52	4	S	P1		5		L	
3101				519	Dr	182												
3101	M. Granholm	H. R. Knox	9-20-52	490	Dr	151				85	12	S4-Sh	P				E, L, A	
3111	G. Street			500	Dr	152				123	7	La	P				L, A	
3112	E. Padgett	V. Hayden	12-12-53	491	Dr	80				77	3	Ss	P				L	
3113	M. Granholm			510	Dr	80												
3113	E. Padgett	V. Hayden		510	Dr	80												



Table 1.--Records of wells, Sullivan County, Indiana--Continued

Well No.	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land-surface (feet)	Diameter (inches)	Depth of casing (feet)	Finish	Water-bearing zone				Water level (feet)	Yield (gpm)	Remarks
										Depth to top (feet)	Thickness (feet)	Material	Geologic age			
8/11W-11C1	M. Granholm		1953	518	Dr	167										
11F1	A. L. Patton		5-21-52	523	Dr	744										K. L. Fillingame and J. Van Dyck 2; La
11J1	G. T. Cox	V. Hayden		490	Dr	106	8	106	Oh		105	1	G			L, A
11J2	M. Granholm		1953	487	Dr	137										E
11L1	J. Donstlick	Clemens & Lewis	7-10-53	492	Dr	137										K
11L2	L. A. Donstlick		12-7-51	522	Dr	625										Pinkston and Fillingame 1;
11L3	X. Crow	Clemens & Lewis	5-12-54	515	Dr	624										La, E
11N1	M. Granholm		2-16-52	490	Dr	601										Union Chapel Oil Co. 1; La
11R1	O. Patton	V. Hayden	1953	489	Dr	212										J. L. Pinkston and O. P. Fillingame 3; La, E
12A1	M. Granholm		9-53	505	Dr	200										E
12B1	O. Patton	V. Hayden	9-53	502	Dr	137										E
12C1	M. Granholm		1947	500	Dr	92	8	90	Oh		90	2	S			I, A
12C2	M. Granholm		9-1-53	477	Dr	137										I, A
12D1	M. Granholm		1953	476	Dr	107										E
12D2	M. Granholm		9-53	503	Dr	182										E
12E1	R. Lester	H. R. Knox	7-5-53	504	Dr	182	8	36	Oh		34	12	S, G			I, A
12E2	O. Lester		9-10-48	480	Dr	63		72	Oh		95	0	La			L, A
12E3	M. Granholm		4-10-54	490	Dr	155					144	1	C			L, A
12Q1	M. Granholm		7-4-53	470	Dr	152										E
12Q2	M. Granholm		1953	472	Dr	265										E
13E1	F. and C. Durton		12-13-53	470	Dr	164										C. W. Dittman and L. Orms-ton 1; La
14A1	M. Crow	Clemens & Lewis	8-3-49	489	Dr	690										Pinkston and Fillingame 1; La
14F1	S. E. Lindley	H. R. Knox	2-8-52	493	Dr	626	6	23	Oh		23	10	G			L, A
14H1	H. Burton	V. Hayden	3-45	450	Dr	63					40	10	Sa			L, A
14K1	L. Badger			480	Dr	90	7	78	P		42	3	G			L, A
14L1	R. Lester			480	Dr	100	8	90	Oh		100		S			L
23E1	R. Whitman	H. R. Knox	7-44	450	Dr	100	8	100	Oh		90	10	S, G			L
23E2	J. Borders	V. Hayden	1945	460	Dr	45	6	45	P		35	5	S			L, A
23E3	D. Foutz			445	Dr	54	7	29	Oh		50	4	Sa			L
23G1	R. and M. Whitman		1947	440	Dr	40	7	50	Oh		0	40	S, G			Log; sand and gravel 0-40 ft;
23H1	J. Monroe	H. R. Knox	1-4-51	442	Dr	2,783										L
23J1	D. Foutz	V. Hayden	11-15-48	465	Dr	150	7	20	Oh		16	4	La			L
23K1	E. Nowlin	H. R. Knox		445	Dr	55	5	24	Oh		43	12	Sa			L, A
24D1	D. Foutz		3-46	530	Dr	82	8	22	Oh		20	24	Sa			L, A
24D2	M. Granholm	H. R. Knox	12-14-53	530	Dr	212										E
24D3	G. Borders		10-11-41	530	Dr	64	7	40	P		42	4	O			L, A
24L1	P. Mable	V. Hayden	10-3-41	525	Dr	175	6	60	Oh		50	2	C			L, A
24L2	M. Barrick		4-20-51	500	Dr	102	8	41	Oh		58	12	Sa, La			L, A
24M1	M. Granholm			510	Dr	122	8	49	P		85	10	Sa			L, A
24N1	M. Granholm			520	Dr	81	7	122	P		59	8	54-La			L, A
25D1	M. Granholm	V. Hayden	12-12-53	480	Dr	62	6	81	P		110	10	Sa			L, A
25D2	M. Granholm			480	Dr	60					71	2	La			La



8/11N-25H1

Well No.	Owner	Location	Dr	540'	57	6	42	P	71	J	L4	P	C	38	D	L, A
25W2	L. Whitman		11-53	540'	57	5	87	P	71	46	G	PI	U	27	T	L, A
25G1	H. R. Knox		7-8-11	420	48	6	48	Co	0						P	A
36G1	M. Granholm		9-25-52	440	1,810										Ok	F. B. Cline 1; L
36K1	Sullivan-Jutsonville		7-31-52	436	907										Ok	F. B. Cline 2; L
36M1	Edwards-Wible Community		1-3-52	431	805										Ok	F. B. Cline 1; L
36Q1	D. L. Riggs		5-25-52	432	797										Ok	F. B. Cline 1; L, E
9/8W-1D1	C. Graham		5-25-52	415	150	7	116	Oh	114	36	Sw	P			D	L, A
2M1	V. Hayden		7-28-48	605	161	6	25	Oh	98	62	Sw	P			D, S	L, A
2M2	L. Adams		8-11-52	570	135	6	80	Oh	95	40	Sw	P			D, S	L, A
3M1	H. R. Knox		8-53	580	178	6	141	Oh	139	37	Sw	P			D, S	L, A
4M1	H. R. Knox		12-8-52	565	178	5	178	Oh	142	36	Sw	P			D, S	L, A
4N1	Ferr-Durton		12-11-53	513	1,130										Ok	F. B. Cline 1; L
4Q1	F. B. Crick		9-28-53	535	2,058	7	87	P	175	4	Sw	P			Ok	F. B. Cline 1; L, E
5N1	H. R. Knox		2-10-54	580	306	7	308	P	175	4	Sw	P			L; well dry 1-20-58	
5N2	G. Forbes		3-1-54	580	115	5	67	P	67	6	Sw	P			D	L, A
5N3	V. Hayden		10-12-59	580	353	5	115	Oh	98	5	Sw	P			D	L, A
5P1	H. R. Knox		3-12-54	575	200	8	268	Oh	318	35	Sw	P			D	L, A
6J1	K. Sabatino		9-11-52	585	128	7	180	Oh	165	10	Sw	P			D	L, A
8D1	D. Bedwell		2-24-54	575	150	7	23	Oh	22	55	Sw	P			D	L, A
9C1	G. Larr		12-46	545	178	5	47	P	108	12	Sw	P			D	L, A
9E1	K. H. Brown		2-13-54	513	1,063	7	80	Oh	74	16	G	PI			D	L, A
9L1	Brown Estate and Grindol		11-5-58	505	2,000				125	53	Sw	P			Ok	F. B. Cline 1; L
9P1	K. Quick		4-44	540	205	8	38	Oh	162	43	Sw	P			Ok	Maison Oil Co. 1; L
10C1	O. Larr		8-53	560	175	6	121	Oh	121	54	Sw	P			D, S	L, A
11C1	M. A. Curry		10-10-41	565	2,005	7	74	Oh	74		S	PI			Ok	T. H. Drake 1; L
11D1	E. S. Mohan		12-16	570	74	7	74	Oh							Ok	L, A
13R1	K. Nelson		11-14-59	620	87	7	48	Oh	175	33	Sw	P			D, S	L, A
16B1	C. Davis		11-12-54	540	100	7	138	Oh	64	19	Sw	P			D, S	L, A
16G1	V. Hollibaugh		3-16-49	550	125	4	63	Oh	99	15	Sw	P			D	L, A
17C1	C. K. Jones		2-21-49	560	546										Ok	F. B. Cline 1; L
17K1	J. L. Ring and E. Halberstadt		2-10-49	502	351	7	72	P, Oh	75	1	C	P			Ok	Maison Oil Co. 1; L
17P1	P. Harvey		2-22-52	550	103	6	95	Oh	64	1	C	P			Ok	F. E. Poo 1; L
18B1	Mr. Bays		2-48	540	99	8	63	Oh	64	7	Sw-L4	P			D, S	L, A
20A1	R. Peterson		10-19-49	548	901				141	42	Sw	P			Ok	A. S. Reed and others 1; L
20B1	D. R. Hilliard		10-58	530	192	7	142	Oh	102	3	Sw	P			Ok	L, A
21A1	R. Plew		12-14-54	525	156	5	101	P	128	3	Sw-L4	PI			D, S	L, A
21B1	N. Stark		7-17-54	510	180	7	83	Oh	138	6	Sw-L4	P			D	L, A
21R1	J. Wright		12-7-59	530	100	8	100	Oh	151	9	Sw	P			D	L, A
22L1	C. Norman		4-2-41	550	97	7	58	Oh	100	39	Sw	PI			D	L, A
23R1	W. Gebel		1-4-55	545	110	7	58	P	62	3	Sw-L4	P			D	L, A
23G1	U. S. Powder Co.		5-27-55	620	128	5	110	Oh	74	36	Sw	P			D	L, A
24H1	J. Zink		0-15	535	189	7	33	Oh	135	34	Sw	P			P	L, A
27C1	G. Mathers		2-14-52	485	160	7	30	Oh	123	37	Sw	P			D	L, A
27D1	Town of Hysora		6-2-51	485	10	8	42	Oh	121	37	Sw	P			T	L, A
28E1	L. Ingram		7-15	515	160	7	28	P	68	40	Sw	P			D	L, A
28F1	E. Bunyan		8-15	510	164	0	56	Oh	114	40	C	P			D	L, A
28G1	R. Runyan		10-29-11	510	164	8	68	Oh	106	34	Sw	P			D	L, A
28H1	G. Everhart		10-2-17	520	263	9	45	Oh	119	38	Sw	P			D	L, A
28K1	Town of Hysora								128	38	Sw	P			D	L, A
									43	9	Sw	P			N	L
									57	35	Sw	P				
									146	35	Sw	P				
									223	30	Sw	P				

L, A; Dd 70 ft pumping at 10 ft



9/98-991	W. Sparks	-----do-----	7-45	545	Dr	173	7	54	Oh	54	24	54-Sh	P	C	F	D	L, A
961	R. Jewell	V. Hayden	1947	520	Dr	280	7	66	P	120	2	C	P			H	L, A
971	Town of Farmoreburg	Layne-Northern Co., Inc.	5-23-51	510	Dr	29	6			219	50	Sd-Sh	P			T	L
1001	M. Moore	R. Denson	1949	555	Dr	200	8	74	Oh				P	C	25	N	L
1001	Z. Johnson	V. Hayden	7-31-59	540	Dr	71	7	33	Oh				P	C	27	D	L
11A1	J. L. Shephard	H. R. Knox	6-2-54	550	Dr	165	5	35	P	45	58	Sd-Sh	P			D	L, A
11N1	R. Spencer	-----do-----	6-47	560	Dr	124	7	27	Oh	76	14	Ss	P			D	L, A
12D1	F. W. Walton	V. Hayden	2-2-48	563	Dr	950	8	17	Oh	52	11	Ss	P			OK	M. C. Freeman 1; La
13G1	E. Nash	V. Hayden	1946	530	Dr	84	8						P			OK	L, A
14B1	F. Stafracker	H. R. Knox	1947	560	Dr	270	7	23	P	51	2	C	P			OK	L, A
14F1	M. Branshite	-----do-----	11-17-55	580	Dr	80	5	80	P	70	8	Ss	P			D	L, A
14J1	R. Scott	-----do-----	11-10-54	590	Dr	172	7	21	P	120	30	Ss	P			D	L, A
15F1	R. Woodard	-----do-----	1944	510	Dr	177	7						P			D, S	L
15P1	Shirley Realty Co.	The Ohio Oil Co.	9-1-43	531	Dr	2,407	7						P			OK	The Ohio Oil Co. 2; La
15R1	M. Branshite	H. R. Knox	10-46	550	Dr	182	7	21	Oh	84	1	C	P			D	L
15R2	W. Baldridge	R. Denson	1950	545	Dr	150	7	31	P	94	12	La	P			D	L, A
16D1	C. Moore	V. Hayden	2-53	530	Dr	297	5	150		48	1	C	P			OK	L, A
16J1	Meadow Lark Farms	H. R. Knox	5-45	515	Dr	90	8	28	Oh	58	3	La	P			D, S	L, A
17E1	R. E. Jennings	George & Wraether Oil Co.	12-22-48	535	Dr	2,286										OK	George & Wraether Oil Co. 1; La
17Q1	R. Pittman	-----do-----	7-10-49	523	Dr	1,370										OK	F. B. Cline 1; La
18L1	R. Sluder	-----do-----	11-4-54	535	Dr	2,377										OK	T. Grog 1; La
18M1	-----do-----	Clemens Exploration Co.	3-7-52	524	Dr	1,000										OK	F. D. Cline 1; L
18N1	E. Thompson	-----do-----	6-27	530	Dr	656										OK	L
18R2	J. Bonham	W. H. Wood	12-7-32	525	Dr	338										OK	W. H. Wood and others 1; L
19A1	J. Polje	V. Hayden	-----do-----	520	Dr	96	8	96	P	95	1	S	PI			D, S	L, A
19A2	R. Mars	-----do-----	1-12-35	530	Dr	320										OK	The Domo Gas Co. 1; L
19A3	W. Mad C. Jennings	-----do-----	12-15-34	520	Dr	267										OK	The Domo Gas Co. 2; L
19A4	R. Mars	-----do-----	2-16-35	500	Dr	280										OK	The Domo Gas Co. 2; La
19G1	A. R. Hauger	-----do-----	10-29-34	500	Dr	628										OK	Wyman and Brown 1; L
19H1	T. Stuck	-----do-----	3-5-35	530	Dr	337										OK	The Domo Gas Co. 1; La
19K1	S. Hauger	V. Hayden	1-8-46	520	Dr	352										OK	The Domo Gas Co. 3; L
20D1	D. Sluder	-----do-----	1953	525	Dr	96										OK	L; dry hole
20E1	R. Mars	-----do-----	1-31-32	505	Dr	258										OK	D. Sluder 1; L
20E2	H. Maris	-----do-----	12-6-37	535	Dr	468										OK	The Domo Gas Co. 5; La
20E3	H. Taylor	-----do-----	7-12-40	525	Dr	93	6									D, S	La (partial). A
20G1	O. Williams	M. & E. Drilling Co.	1-19-58	505	Dr	2,150										OK	R. English 1; La
20H1	R. Maris	-----do-----	4-6-50	530	Dr	1,103	7	15	P, Oh	85	15	Ss	P			D	L
20N1	A. Fulford	Sutherland Bros.	1-26-52	486	Dr	650	8	35	P							OK	Sutherland Bros. 1; La
21P1	D. Jennings	V. Hayden	-----do-----	500	Dr	92	8	92								OK	L, A
22E1	W. Royer	H. R. Knox	11-15-39	525	Dr	190	6	65	Oh							OK	L; salt water
22F1	Lori and Jewell	-----do-----	8-22-47	535	Dr	640	6									OK	A. S. Reed 1; La
23C1	L. Baker	H. R. Knox	8-49	570	Dr	75										OK	L, A
23H1	Ebenezer Church	-----do-----	J-53	560	Dr	183	7	42	Oh	67	5	Sd-Ls	P			P	L, A
23H2	H. Martin	C. E. Crick	4-6-50	566	Dr	1,380										OK	F. B. Cline 1; La, E
23H3	H. Taylor	H. R. Knox	11-13-52	540	Dr	92	8	28	Oh	77	8	Sd-Sh	P			OK	L, A
24D1	Mr. Taylor	-----do-----	10-13-47	540	Dr	97	7	20	Oh	70	2	C	P			N	L
26L1	P. Austin	V. Hayden	-----do-----	540	Dr	82	8	20	P	64	2	C	P			D	L, A
27D1	H. Crowder	H. R. Knox	11-43	540	Dr	87	7	82	Oh	70	10	Sd-Ls	P			D	L (partial), A
27H1	V. Ring	V. Hayden	1947	545	Dr	205										OK	L
27P1	Cook and Vasey	-----do-----	5-16-51	545	Dr	2,287										OK	F. D. Cline 1; La
28D1	Mrs. Bailey	H. R. Knox	9-46	530	Dr	77	7	21	Oh	24	6	Ss	P			OK	L
28H1	McKinney and Fairview	U. & E. Drilling Co.	10-22-51	531	Dr	1,417										OK	Kuhn, Banks, Korns, and McKinney 1; La, E
29A1	A. Beckwith	-----do-----	4-27-53	535	Dr	700										OK	Superior Drilling Corp. 1; La
29G1	C. E. Blackford	-----do-----	7-6-53	526	Dr	1,082										OK	Do
29G2	J. L. Hartzfirk	H. R. Knox	11-30	530	Dr	110	6	40	Oh	40	5	Sh	P			OK	Do
					Dr	88					22	Ss	P			D	L

Table 1.--Records of wells, Sullivan County, Indiana--Continued

Well No.	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land surface (feet)	Diameter (inches)	Depth of casing (feet)	Finish	Water-bearing zone				Water level (feet)	Yield (gpm)	Remarks
										Depth to top (feet)	Thickness (feet)	Material	Geologic age			
9/9W-29K1	M. D. Jowell		11-15-31	520	Dr	561										
29M1	J. Hazelrigg		6-2-49	523	Dr	2,386										The Dose Gas Co. 1; L
31G1	J. V. Dix		8-37	500	Dr	710										W. Myman 1; L
31L1	C. R. Hayden	Sutherland Bros.	2-17-54	502	Dr	708										Niagara Oil Corp. 1; L
31R1	L. R. Hart		11-21-52	522	Dr	730										R. Sutherland 2; L
32A1	F. Jewell		10-33	550	Dr	501										Ditinger and Burgin 1; L
32C1	W. Lux		11-37	530	Dr	560										The Dose Gas Co. 1; L
32D1	R. Martz		9-27-47	524	Dr	783										The Dose Gas Co. 2; LA
32E1	R. and D. Mitlock		8-11-36	530	Dr	720										A. S. Reed 1; L
32N1	N. Stock		3-20-52	531	Dr	2,315										Niagara Oil Corp. 2; LA
32P1	J. Gill		11-26-30	545	Dr	683										Superior Oil Corp. 1; LA
33F1	E. Mills		5-45	545	Dr	105	8	20	Oh							J. C. Ellis 1; LA
33H1	W. Scott		7-29-40	540	Dr	509										L, A
33I1	B. Dolinger		5-1-40	545	Dr	2,390										Forest Oil Corp. 1; LA
34B1	F. Shipman			540	Dr	221										L
34F1	Town of Shoeburn		8-47	540	Dr	90	8	28	Oh							L
34J1			6-46	540	Dr	90	10		Oh							L
34K2	Thompson-Gumano		10-37	540	Dr	303										L
34J3	W. Gamace		19-47	540	Dr	304										L
34J5	Opera House		10-3-46	540	Dr	510										L
34K1	C. Hall		11-47	540	Dr	302										LA (partial)
34K2	J. Sebring		10-47	540	Dr	185										L
34K3	J. Martz			540	Dr	205										L
34K4	J. Stevenson		10-47	540	Dr	205										L
34M1	J. Stirling		5-35	535	Dr	711										L
34L2	F. Miller		11-47	530	Dr	185										L
34N1	L. Skelton		10-47	530	Dr	205										L
34N2	C. Leach		7-9-51	580	Dr	205										L
34N3	J. Sybert			550	Dr	120										L
35A1	T. Rambis			550	Dr	120										L
35C1	G. Carrithers			542	Dr	318										L
24L				538	Dr	181										L
4N1	T. Mayfield		1928	500	Dr	2,225										King Tust Oil Co 1; LA
5D1	E. Williams		7-48	475	Dr	2,220										R. Nyora 1; LA
5E1	C. Mayfield		8-50	475	Dr	2,239										R. N. Anderson 1; L
5F1	F. Stemons		11-8-39	530	Dr	50										L
6A1	J. Thomas		1927	445	Dr	2,174										Stoni Oil Corp. 1; L
6A2	J. and L. Thomas		12-12-48	487	Dr	2,230										Stoni Oil Corp. 4; LA
6E1	J. Hunt		1934	470	Dr	2,193										R. Myers 1; LA
6H1	L. Hunt		1953	520	Dr	182										Reager and others 1; LA
8K1	M. Granholm		9-18-40	500	Dr	2,486										E
8N1	L. Norris		5-20-55	525	Dr	125	6	38	Oh							Ready & Dresser Oil 2; LA
11L1	W. Johnson			525	Dr	64	6	43	Oh							L; solution opening in limestone
11L2				542	Dr	167										E
12N1	M. Granholm		1953	542	Dr	02										E
13F1			1950	544	Dr	02										E
14H1			1953	512	Dr	152										R. Jordan 1; LA
14N1	F. and G. Reynolds		9-12-58	535	Dr	860										Z
15C1	M. Granholm		10-53	498	Dr	182										Z
15J1	W. Johnson		4-45	525	Dr	175										L, A
15N1				525	Dr	35										L, A

8/10W-15P1	R. Johnson	V. Hayden	530	Dr	60	B	32	Ch	14	7	T	PI	D	L, A
1801	do	do	520	Dr	250	8	32	Ch	35	1	C	P	T	I;
1801	Granbols	do	565	Dr	182				54	8	Sh	P	-----	well dry 11-14-57
1801	Kramer and Woodor	do	550	Dr	1,564								-----	D. Cline 1; La, E
1801	Mr. Trumblood	do	4-45	Dr	80	7	48	Ch		25	3a	F	-----	F. A
1801	Mr. Drake	do	9-11-42	Dr	102	7	48	Ch	50	25	3a	F	-----	
1801	Mr. Holser	do	9-11-42	Dr	139	6	49	P	80	10	Ss	P	-----	
1801	Mr. Drake	do	9-11-42	Dr	91	7	49	P	139	6	Sa	P	-----	
1801	Mr. R. Knox	do	7-16-50	Dr	590	5	81		65	15	Sa	P	-----	
1701	R. Benson	do	500	Dr	147				87	14	Sh	P	-----	
1701	M. Granbols	do	540	Dr	114				30	46	S/G	P1	-----	
1701	F. Liston	do	540	Dr	76	10	76	S					-----	
1801	J. Hunt	do	475	Dr									-----	
1801	Indiana & Michigan Electric Co., Inc.	do	5-20-57	Dr									-----	Do, 16.5 ft after pumping 8 hr at 325 GPM; screen 10 ft, 8-inch diameter, 80 slot
1801	Indiana & Michigan Electric Co., Inc.	Raymond Concrete Pils. Inc.	1958	448	Dr								-----	
1802	do	do	1956	444	Dr								-----	
1802	do	do	1956	442	Dr	55							-----	
1802	do	do	1956	442	Dr	60							-----	
1802	do	do	1956	444	Dr	53							-----	
1802	do	do	1956	444	Dr	50							-----	
1802	do	do	1956	445	Dr	35							-----	
1802	do	do	1956	436	Dr	34							-----	
1802	do	do	1956	438	Dr	30							-----	
1802	do	do	1956	437	Dr	167							-----	
1802	do	do	6-50	523	Dr	182							-----	
1801	M. Granbols	R. Benson	510	Dr	170	8							-----	
1801	O. Hollingsworth	V. Hayden	509	Dr	1,622								-----	
1801	F. Norris	do	532	Dr	162								-----	dry hole
1801	O. and E. Kennalt	do	510	Dr	640								-----	well dry 2-20-58
1801	M. Granbols	do	510	Dr	130								-----	C. Harman 1; La
1801	H. and W. Fallings	do	510	Dr	100	7	32	Oh		25	Ss	P	-----	R. Myers 1; La
1801	H. and W. Fallings	do	510	Dr	100	7	42	P		22	Ss	P	-----	L, A
2001	J. Cheating	do	515	Dr	100	7	100	P		22	Ss	P	-----	Slomat Oil Co. 1; L
2001	M. A. Drake	do	531	Dr	2,556	7	32	Oh		2	C	F	-----	L
2001	L. Thomas	do	550	Dr	133	7	37	P		1	C	P	-----	
2002	do	do	545	Dr	2,548	8	133			15	Sa	P	-----	F. D. Cline 1; La
2001	B. A. Pogue	V. Hayden	534	Dr	107	8	85						-----	L, A
2001	M. Granbols	do	515	Dr	85	8	58						-----	
2001	L. Higbee	do	515	Dr	85	7	85						-----	
2001	A. Fulford	do	500	Dr	256								-----	
2001	L. Webster	do	503	Dr	544								-----	H. Hachbusch 1-A; La
2001	J. E. McConkey	H. R. Knox	520	Dr	60	6	81	Oh		8	S/G	PI	-----	L, A
2001	D. Starkey	do	510	Dr	183	6	81	Oh		10	Sd-La	P	-----	L, A
2001	J. R. Bohanan	do	485	Dr	1,045								-----	H. Hachbusch 1; La
2001	C. Orr and N. Soules	do	477	Dr	481								-----	Do
2001	C. Orr and N. Soules	do	518	Dr	810								-----	A. S. Road 1; L
2001	R. D. Brown	V. Hayden	505	Dr	45	8	45	Do		3	G	PI	-----	L, A
2001	H. Kistner	do	504	Dr	2,340								-----	W. Wyman 1; La
2001	W. Wyman	do	505	Dr	521	7	62						-----	Do
2001	R. Cheating	do	500	Dr	80	7	74						-----	L, A
2001	O. Darth	do	494	Dr	2,440	5	74						-----	W. Wyman 1; La
2001	J. Dutton	J. Kaykumball	490	Dr	1,550								-----	E. B. Cline 1; La, E
2001	M. Granbols	do	507	Dr	167								-----	L, A
2001	do	do	493	Dr	182								-----	L, A
2001	do	do	487	Dr	227								-----	L, A
2001	do	do	513	Dr	143	8	63	P					-----	L, A
2001	A. Drake	V. Hayden	515	Dr	117	7	143						-----	L, A
2001	do	do	515	Dr	212	8	64	Oh					-----	L, A
2001	X. Granbols	H. R. Knox	511	Dr	182								-----	L, A
2001	F. Worz	do	517	Dr	1,653								-----	F. B. Cline 1; La
3001	A. Ivory	do	530	Dr	190	7	29	Oh					-----	L, A; malt water

Table 1.--Records of wells, Sullivan County, Indiana--Continued

Well No.	Owner	Driller	Date completed	Altitude (feet)	Type of well	Depth of well below land surface (feet)	Diameter (inches)	Depth of casing (feet)	Stratigraphic	Water-bearing zone					Water level (feet)	Yield (gpm)	Use	Remarks	
										Depth to top (feet)	Thickness (feet)	Material	Geologic age	Ground-water occurrence					
9/10W-31A1	C. Lester	V. Hayden		530	Dr	100	8	47	P	49	11	Sh	P			D	L, A		
							7	100		88	3	Sh, C, Ls	P						
31H1	M. Granholm		1953	523	Dr	187				96	1	La	P			T	E		
31P1	E. Riggs	H. R. Knox	10-45	510	Dr	122	8	82	Oh	95	5	Ss	P			D	L, A		
31Q1	O. Thompson		7-44	510	Dr	100	7	40	Oh	55	2	Ls	P			D, S	L, A		
										68	12	Sa	P						
32J1	F. R. Cameron		9-5-55	515	Dr	1,645											Ok	R. Wyman 1; La	
32K1	M. Granholm		1953	518	Dr	154													
32L1	A. Drake		1953	507	Dr	120													
32M1	C. Clemens		12-27-52	517	Dr	785												T, R. Redifer 1; La	
32N1	M. Granholm		7-33	518	Dr	137													
32O1	V. Granholm		6-30	500	Dr	82	7	77	Oh	80	21	S	Pl	C	25	1	S	L, A	
32P1	E. Hall		3-8-52	502	Dr	800												Ok	R. Redifer 1; La
32Q1	A. Woodard	Clemens & Lewis		500	Dr	81	8	56	Oh										D, S
32R1	M. Granholm	V. Hayden	7-53	511	Dr	107													E, L, A
32S1	R. Woodard	V. Hayden	1943	505	Dr	200	8	97	Oh	97	8	La	P						D, S
										142	33	Sa	P						
34C1	M. Granholm		4-24-53	496	Dr	272													
34D1			4-22-53	498	Dr	197													
34E1	E. Gruthers	K. R. Knox	9-29-41	490	Dr	64	6	64	Oh	61	3	S	Pl						T, E
34F1	O. Woodard		8-6-42	480	Dr	2,417													
34G1	J. Engberg	K. R. Knox	12-43	470	Dr	120	6	72	Oh	72	8	94-La	P						Ok
34H1				470	Dr	150	6		Oh										
34I1	Indiana & Michigan Electric Co.	Raymond Concrete Pipe, Inc.	1956	442	Dr	80				10	70	S, G	Pl						N, L
34J1				440	Dr	55				28.5	27.5	S, G	Pl						
34K1		Layne-Werthorn Co., Inc.	12-56	440	Dr	36	28	30	S	19	37	S, G	Pl						
34L1				441	Dr	65				14	51	S, G	Pl						
34M1		Raymond Concrete Pipe, Inc.		442	Dr	70				12.5	56.5	S, G	Pl						
34N1			1955	442	Dr	60				14.5	45.5	S, G	Pl						
34O1			1956	442	Dr	55			Oh	12.5	42.5	S, G	Pl						
34P1			1950	455	Dr	70	7	7	P	34	3	C	P						
34Q1	S. Brothers	A. Benson		455	Dr	100	5	70	Oh	30	2	C	P						
25C2	J. Wilson	K. R. Knox	5-49	455	Dr	100	6	9	Oh	74	14	Ss	P						
36H1	M. Granholm		1953	530	Dr	137													

Table 2.--Selected well logs, Sullivan County, Indiana  
 Remarks: T. D., total depth in feet, complete log  
 or sample log not given; W. B., water bearing

Well 6/8W-2R1

Type of record: Driller's log. Altitude: About 497 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface-----	8	8	
Sand-----	19	27	
Pennsylvanian system:			
Middle series:			
Sandstone-----	8	35	
Shale-----	15	50	

Well 6/8W-4A1

Type of record: Driller's log. Altitude: About 559 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface-----	10	10	
Pennsylvanian system:			
Middle series:			
Sandstone-----	24	34	
Limestone-----	3	37	
Shale-----	3	40	

Well 6/8W-5A1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	2	2	
Pennsylvanian system:			
Middle series:			
Shale-----	5	7	
Limestone-----	6	13	
Shale-----	13	26	
Shale, hard-----	6	32	
Shale-----	8	40	

Well 6/8W-5D1

Type of record: Driller's log. Altitude: About 485 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	20	20	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	12	32	
Slate, dark, and coal-----	8	40	W. B.
Fire clay-----	3	43	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/8W-5D1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	2	45	W. B.
Sandstone-----	25	70	
Shale, dark-----	8	78	
Shale, sandy-----	7	85	

Well 6/8W-9N1

Type of record: Driller's log.		Altitude: About 533 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Surface-----	19	19	
Pennsylvanian system:			
Middle series:			
Shale-----	8	27	
Limestone-----	3	30	

Well 6/8W-9Q1

Type of record: Driller's log.		Altitude: About 600 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	10	10	
Pennsylvanian system:			
Middle series:			
Shale, firm-----	25	35	
Shale, sandy, broken-----	12	47	
Shale, soft, gray-----	3	50	
Shale, light-----	15	65	
Limestone-----	3	68	
Shale, gray-----	3	71	
Limestone-----	4	75	
Shale, red and gray-----	8	83	
Limestone-----	10	93	
Shale, gray-----	10	103	
Shale, dark-----	17	120	
Shale, sandy-----	20	140	
Shale, dark-----	--	140	

Well 6/8W-10N1

Type of record: Driller's log.		Altitude: About 600 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Pennsylvanian system:			
Middle series:			
Shale-----	15	30	
Sandstone, brown-----	8	38	
Shale, gray; trace of coal-----	9	47	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/8W-12K1

Type of record: Driller's log.

Altitude: About 550 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	26	26	
Pennsylvanian system:			
Middle series:			
Shale-----	10	36	
Coal-----	2	38	"Bad water"
Fire clay-----	9	47	
Shale-----	20	67	
Shale, dark-----	2	69	Gas
Coal-----	1	70	
Shale-----	15	85	
Limestone-----	9	94	W. B.
Shale-----	46	140	

Well 6/8W-12Q1

Type of record: Driller's log.

Altitude: About 580 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	
Pennsylvanian system:			
Middle series:			
Shale-----	28	48	
Coal-----	2	50	"Bad water"
Shale-----	28	78	
Coal-----	2	80	"Bad water"
Fire clay-----	6	86	
Shale-----	26	112	
Slate-----	2	114	
Shale-----	11	125	
Limestone-----	3	128	W. B.
Shale-----	4	132	

Well 6/8W-13R1

Type of record: Driller's log.

Altitude: About 510 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	10	10	
Pennsylvanian system:			
Middle series:			
Shale-----	16	26	
Coal-----	2	28	
Shale-----	12	40	
Coal-----	5	45	
Shale, blue-----	5	50	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/8W-14R1

Type of record: Driller's log.

Altitude: About 575 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	8	8	
Pennsylvanian system:			
Middle series:			
Shale-----	6	14	
Limestone-----	5	19	
Shale-----	21	40	

Well 6/8W-17Q1

Type of record: Driller's log.

Altitude: About 505 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Soil and hardpan-----	20	20	
Pennsylvanian system:			
Middle series:			
Shale-----	22	42	
Limestone, hard-----	2	44	
Shale, light-----	6	50	
Sandstone-----	32	82	W. B.
Shale, gray-----	8	90	
Slate, gray-----	12	102	
Coal-----	2	104	W. B.
Fire clay-----	5	109	
Shale, sandy-----	11	120	
Slate, gray-----	15	135	
Slate, dark-----	6	141	
Coal-----	3	144	W. B.
Fire clay-----	5	149	
Shale, light-----	16	165	
Sandstone-----	13	178	W. B.
Shale, dark-----	4	182	

Well 6/8W-18C2

Type of record: Driller's log.

Altitude: About 545 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Dug well-----	24	24	
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	20	44	
Sandstone-----	9	53	
Coal and fire clay-----	7	60	
Limestone, sandy-----	7	67	
Shale, light-----	6	73	
Limestone, hard-----	2	75	
Shale-----	2	77	
Limestone-----	1	78	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/8W-18P1

Type of record: Driller's log.

Altitude: About 515 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	30	30	
Hardpan-----	10	40	
Pennsylvanian system:			
Middle (?) series:			
Fire clay-----	3	43	
Limestone, hard-----	7	50	
Red rock-----	5	55	
Sandstone-----	10	65	
Shale, sandy-----	10	75	
Shale, dark-----	15	90	
Limestone-----	5	95	
Shale, sandy-----	5	100	
Sandstone-----	5	105	
Shale, black-----	10	115	
Shale, sandy-----	32	147	
Coal-----	2	149	
Fire clay-----	8	157	
Shale, black-----	11	168	
Limestone-----	17	185	W. B.
Coal-----	5	190	Gas
Fire clay-----	1	191	

Well 6/8W-18R1

Type of record: Driller's log.

Altitude: About 490 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	12	12	
Pennsylvanian system:			
Middle series:			
Shale-----	11	23	
Limestone-----	6	29	
Shale-----	21	50	

Well 6/8W-19L2

Type of record: Driller's log.

Altitude: About 525 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	14	14	
Pennsylvanian system:			
Middle series:			
Shale-----	14	28	
Coal-----	1	29	
Shale, hard-----	11	40	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/8W-20B1

Type of record: Driller's log.

Altitude: About 520 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	17	17	
Hardpan-----	6	23	
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	5	28	
Limestone, hard-----	6	34	
Shale, gray-----	3	37	
Red rock-----	5	42	
Shale, gray-----	4	46	
Limestone-----	3	49	W. B.
Shale, sandy-----	9	58	
Sandstone-----	7	65	W. B.
Shale, dark-----	5	70	
Limestone, hard-----	6	76	
Sandstone, hard-----	12	88	
Sandstone, gray-----	17	105	
Shale, sandy, dark-----	20	125	
Coal-----	3	128	
Fire clay-----	4	132	
Shale, light-----	6	138	
Sandstone-----	18	156	
Slate, black-----	11	167	
Coal-----	5	172	
Fire clay-----	3	175	
Shale, sandy-----	5	180	
Sandstone, light-----	10	190	W. B.
Shale-----	3	193	

Well 6/8W-21Q1

Type of record: Driller's log.

Altitude: About 550 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	4	4	
Pennsylvanian system:			
Middle series:			
Shale-----	20	24	
Limestone-----	2	26	
Shale-----	9	35	
Limestone-----	1	36	
Shale-----	4	40	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/8W-22J1

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

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	10	10	
Pennsylvanian system:			
Middle series:			
Shale-----	25	35	
Limestone-----	2	37	
Shale-----	43	80	

Well 6/8W-22M1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	8	8	
Pennsylvanian system:			
Middle series:			
Shale-----	27	35	
Limestone-----	2	37	
Shale-----	3	40	

Well 6/8W-24R1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	10	10	
Pennsylvanian system:			
Middle series:			
Shale-----	13	23	
Sandstone-----	3	26	
Shale-----	14	40	

Well 6/8W-26A1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	8	8	
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	20	28	
Shale-----	3	31	
Sandstone-----	4	35	
Shale-----	5	40	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/8W-31N1

Type of record: Driller's log. Altitude: About 480 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	16	16	
Pennsylvanian system:			
Middle series:			
Shale-----	18	34	
Limestone-----	6	40	

Well 6/8W-34R1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	12	12	
Pennsylvanian system:			
Middle series:			
Shale-----	25	37	
Limestone-----	3	40	

Well 6/8W-36R1

Type of record: Driller's log. Altitude: About 480 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	14	14	
Pennsylvanian system:			
Middle series:			
Shale-----	17	31	
Limestone-----	6	37	
Shale-----	3	40	

Well 6/9W-2A1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	28	28	
Pennsylvanian system:			
Middle series:			
Sandstone-----	36	64	W. B.
Shale, soft, gray-----	6	70	
Shale, sandy-----	20	90	
Shale, dark-----	8	98	
Coal-----	1	99	W. B.
Clay-----	--	99	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/9W-2C1

Type of record: Driller's log.

Altitude: About 460 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, red, and hardpan-----	21	21	
Pennsylvanian system:			
Middle (?) series:			
Sandstone, white-----	31	52	W. B.
Shale, gray-----	4	56	
Limestone, hard-----	4	60	
Shale, gray-----	2	62	
Red rock-----	5	67	
Shale, sandy, gray-----	7	74	
Sandstone-----	21	95	W. B.

Well 6/9W-2C2

Type of record: Driller's log.

Altitude: About 460 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay and sand-----	21	21	
Pennsylvanian system:			
Middle (?) series:			
Sandstone, yellow-----	8	29	
Sandstone, gray-----	23	52	W. B.
Shale, gray-----	4	56	
Limestone-----	3	59	
Shale, dark-----	3	62	
Red rock-----	5	67	
Shale and sandy shale-----	7	74	
Sandstone-----	46	120	
Shale, sandy-----	30	150	
Coal-----	3	153	
Fire clay-----	1	154	

Well 6/9W-3F1

Type of record: Driller's log.

Altitude: About 441 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, brown-----	14	14	
Sand, silty, gray, and clay-----	6.5	20.5	
Sand, silty, gray, and clay, with sandstone in layers-----	4.5	25	
Clay, brown-----	4	29	
Sand, silty, gray, and clay-----	32.5	61.5	
Sand, silty, gray, and clay with sandstone in layers-----	2.5	64	
Pennsylvanian system:			
Middle series			
Sandstone, solid-----	--	64	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/9W-5Q1

Type of record: Driller's log. Altitude: About 470 feet.

Material	Thick-ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Top soil, sandy-----	4	4	
Sand, very fine, red-----	11	15	W. B.
Sand, very fine, some clay-----	15	30	W. B.
Clay, sandy, red, green, and gray	2	32	

Well 6/9W-7C1

Type of record: Driller's log. Altitude: About 455 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand, fine, red-----	10	10	
Sand, with occasional gravel-----	11	21	
Sand, medium-----	3	24	
Sand and clay-----	2	26	W. B.
Sand, fine-----	15	41	W. B.
Sand, very fine-----	12	53	W. B.

Well 6/9W-8A1

Type of record: Driller's log. Altitude: About 460 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand, very fine, red-----	7	7	
Sand, fine, red with lumps of brown and blue clay-----	8	15	W. B.
Sand, very fine, red-----	5	20	W. B.
Sand, fine, with some small gravel-----	7	27	W. B.
Clay, blue-----	11	38	
Clay-----	2	40	
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	5	45	

Well 6/9W-8C1

Type of record: Driller's log. Altitude: About 464 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand, fine, red-----	25	25	W. B. 16 to 46 ft.
Sand, medium, clean-----	9	34	
Shale, soft, gray and green-----	11	45	Clay(?)
Gravel and shale, mixed-----	1	46	Gravel and clay(?)



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/9W-10K1

Type of record: Driller's log.

Altitude: About 480 feet.

Material	Thick-ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface; red sand-----	25	25	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	40	65	
Sandstone-----	35	100	
Shale, gray-----	20	120	
Sandstone-----	17	137	
Pennsylvanian system:			
Middle series:			
Limestone, hard, dark-----	4	141	
Sandstone, broken-----	9	150	
Sandstone-----	37	187	
Shale, dark-----	2	189	

Well 6/9W-10Q1

Type of record: Driller's log.

Altitude: About 520 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface; sandy mud-----	25	25	
Pennsylvanian system:			
Middle series:			
Sandstone, blue-----	23	48	
Shale, muddy, dark-----	10	58	
Limestone-----	2	60	
Shale, muddy, blue-----	20	80	
Slate, muddy, black-----	30	110	
Sandstone, limy, broken-----	30	140	
Sandstone-----	64	204	
Limestone-----	1	205	
Sandstone-----	15	220	

Well 6/9W-10Q2

Type of record: Driller's log.

Altitude: About 505 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface-----	25	25	
Pennsylvanian system:			
Middle series:			
Shale, muddy-----	15	40	
Limestone-----	3	43	
Shale, muddy, blue-----	32	75	
Shale, brown-----	10	85	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 6/9W-10Q2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	15	100	W. B.
Sandstone-----	25	125	
Shale, muddy, gray-----	35	160	
Sandstone-----	20	180	
Limestone, brown-----	1	181	
Sandstone-----	7	188	W. B.

## Well 6/9W-12A1

Type of record: Driller's log. Altitude: About 485 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand-----	18	18	
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	3	21	
Limestone-----	7	28	
Shale, hard-----	12	40	

## Well 6/9W-14F2

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

Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	17	17	
Hardpan-----	11	28	
Pennsylvanian system:			
Middle (?) series:			
Shale, soft-----	11	39	
Shale, solid, light-----	9	48	
Shale, dark-----	15	63	
Sandstone-----	25	88	
Coal-----	1	89	
Fire clay-----	7	96	
Limestone, brown-----	2	98	
Shale-----	9	107	
Limestone, very hard-----	3	110	
Red rock-----	6	116	
Limestone, sandy-----	8	124	
Sandstone-----	14	138	
Shale-----	6	144	
Limestone, hard-----	2	146	
Sandstone, dark-----	34	180	
Shale, dark-----	22	202	
Coal-----	1	203	
Fire clay-----	6	209	
Sandstone-----	22	231	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/9W-14F2--Continued			
Material	Thickness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, dark-----	21	252	
Slate, black-----	4	256	W. B.
Fire clay-----	4	260	
Sandstone-----	10	270	W. B.
Shale-----	8	278	
Well 6/9W-14G1			
Type of record: Driller's log.		Altitude: About 525 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Clay and sand-----	19	19	
Pennsylvanian system:			
Middle series:			
Shale, tough-----	10	29	
Shale, dark-----	6	35	
Shale, black-----	4	39	
Shale, light-----	2	41	
Limestone, soft-----	2	43	
Shale, light-----	8	51	
Coal-----	1	52	
Shale, sandy-----	3	55	
Sandstone-----	35	90	
Coal and fire clay-----	2	92	
Well 6/9W-14G2			
Type of record: Driller's log.		Altitude: About 525 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Clay, red-----	14	14	
Pennsylvanian system:			
Middle series:			
Limestone-----	1	15	W. B.
Shale, light-----	45	60	
Slate, dark-----	4	64	
Limestone, broken-----	9	73	W. B.
Shale, sandy-----	5	78	
Limestone, hard, brown-----	7	85	
Sandstone-----	12	97	W. B.
Coal-----	1	98	
Shale, sandy-----	6	104	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/9W-14G4

Type of record: Driller's log.

Altitude: About 520 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	20	20	
Pennsylvanian system:			
Middle series:			
Shale, tough-----	9	29	
Shale, dark-----	6	35	
Slate, black-----	4	39	
Shale, light-----	11	50	
Shale, sandy-----	5	55	
Sandstone-----	30	85	W. B.
Shale, dark-----	7	92	
Coal-----	1	93	
Shale, sandy-----	5	98	
Shale, light-----	9	107	
Limestone-----	4	111	W. B.

Well 6/9W-15B1

Type of record: Driller's log.

Altitude: About 500 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Soil and hardpan-----	25	25	
Hardpan, gray-----	15	40	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	20	60	
Shale, sandy-----	6	66	W. B.
Coal-----	2	68	
Fire clay-----	5	73	
Shale, sandy-----	10	83	W. B.
Shale, dark-----	9	92	

Well 6/9W-15G1

Type of record: Driller's log.

Altitude: About 570 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	25	25	
Clay, gravelly-----	4	29	
Pennsylvanian system:			
Middle series:			
Shale, blue-----	38	67	
Sandstone-----	6	73	W. B.
Shale, muddy, soft-----	7	80	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/9W-20A1

Type of record: Driller's log.

Altitude: About 500 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Soil; soft sand-----	15	15	
Sand, very fine-----	10	25	W. B.
Pennsylvanian system:			
Middle series:			
Shale-----	33	58	
Limestone, sandy-----	3	61	
Shale, sandy-----	17	78	
Coal-----	2	80	
Fire clay-----	5	85	
Shale, gray-----	25	110	
Slate, black-----	10	120	
Coal-----	2	122	
Fire clay-----	6	128	
Limestone, sandy-----	8	136	W. B.
Limestone, broken, with streaks of shale and limestone-----	54	190	
Shale-----	10	200	

Well 6/9W-20J1

Type of record: Driller's log.

Altitude: About 515 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Quicksand-----	39	39	
Loam, sandy-----	8	47	Clay, sandy (?)
Pennsylvanian system:			
Middle series:			
Shale, blue-----	23	70	
Limestone-----	2	72	W. B.
Shale, gray-----	13	85	
Sandstone-----	15	100	
Shale, black-----	3	103	
Shale, sandy-----	17	120	
Shale, dark-----	4	124	
Shale, gray-----	11	135	
Sandstone-----	57	192	W. B.
Shale-----	--	192	

Well 6/9W-21L1

Type of record: Driller's log.

Altitude: About 510 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, red-----	50	50	
Sand, blue-----	28	78	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/9W-21-L1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	7	85	
Sandstone, gray-----	25	110	
Sandstone, white-----	22	132	
Shale, red-----	6	138	
Sandstone, broken-----	22	160	
Limestone, brown-----	5	165	
Shale-----	5	170	
Limestone, brown-----	5	170	

Well 6/9W-22A1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	17	17	
Pennsylvanian system:			
Middle series:			
Shale, soft-----	6	23	
Limestone-----	2	25	
Shale, gray-----	11	36	
Limestone-----	4	40	W. B.
Shale, dark-----	20	60	

Well 6/9W-22J1

Type of record: Driller's log. Altitude: About 485 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	23	23	
Hardpan-----	8	31	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	5	36	
Slate, dark-----	3	39	
Limestone, hard-----	6	45	
Coal-----	2	47	W. B.
Fire clay, soft-----	4	51	
Shale, gray-----	12	63	
Shale, soft, dark-----	4	67	
Shale, sandy-----	25	92	W. B.
Shale, dark-----	15	107	
Shale, gray-----	9	116	
Shale, sandy-----	10	126	
Limestone, hard-----	6	132	
Red rock, cavey-----	6	138	
Limestone, hard-----	6	144	
Shale, sandy-----	6	150	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 6/9W-23H2

Type of record: Driller's log.

Altitude: About 485 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay and sand-----	24	24	
Hardpan, gray-----	16	40	
Pennsylvanian system:			
Middle (?) series:			
Sandstone-----	4	44	
Shale, light-----	2	46	
Limestone-----	1	47	
Shale, light-----	3	50	
Limestone, very hard-----	3	53	
Red rock-----	9	62	
Limestone, sandy-----	16	78	
Shale, sandy-----	3	81	
Sandstone-----	5	86	
Shale, dark-----	1	87	
Limestone, hard-----	3	90	
Sandstone, dark-----	15	105	
Sandstone, light-----	7	112	
Shale, dark-----	23	135	
Coal-----	2	137	
Fire clay-----	8	145	
Sandstone, light-----	34	179	
Slate, dark-----	4	183	
Coal-----	5	188	
Fire clay-----	--	188	

## Well 6/9W-23J1

Type of record: Driller's log.

Altitude: About 475 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and sand-----	18	18	
Hardpan-----	2	20	
Sand-----	5	25	W. B.
Gumbo-----	18	43	Sticky clay (?)
Pennsylvanian system:			
Middle series:			
Limestone-----	1	44	
Shale, gummy-----	6	50	
Limestone, sandy-----	21	71	
Shale, dark-----	1	72	
Limestone-----	2	74	
Shale, sandy-----	6	80	
Limestone-----	5	85	
Sandstone-----	15	100	W. B.
Shale, dark-----	20	120	
Coal-----	2	122	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/9W-23J1--Continued

Material	Thick-ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Fire clay-----	6	128	
Limestone, brown-----	22	150	
Sandstone-----	4	154	
Slate-----	15	169	
Coal-----	4	173	
Fire clay-----	2	175	

Well 6/9W-23P1

Type of record: Driller's log. Altitude: About 475 feet.

Quaternary system:			
Recent and Pleistocene (?) series:			
Clay, yellow-----	20	20	
Hardpan and shale-----	38	58	
Pennsylvanian system:			
Middle series:			
Limestone-----	3	61	W. B.
Shale, soft-----	7	68	
Sandstone-----	8	76	W. B.
Shale, gray-----	7	83	

Well 6/9W-23P2

Type of record: Driller's log. Altitude: About 465 feet.

Quaternary system:			
Recent and Pleistocene series:			
Hardpan-----	10	10	
Clay, yellow-----	12	22	
Hardpan-----	12	34	
Clay, gray-----	11	45	
Clay, brown-----	19	64	
Sand and gravel-----	7	71	W. B.

Well 6/9W-24N1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	20	20	
Pennsylvanian system:			
Middle series:			
Sandstone-----	8	28	
Shale, dark-----	8	36	
Shale, gray-----	16	52	
Shale, dark-----	6	58	
Limestone, hard-----	3	61	
Shale, soft-----	7	68	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/9W-24N1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, gray-----	5	73	
Shale, sandy-----	7	80	
Sandstone-----	11	91	W. B.
Coal-----	2	93	
Shale, sandy-----	7	100	
Sandstone-----	32	132	W. B.
Shale, dark-----	4	136	
Coal-----	4	140	
Fire clay-----	5	145	
Limestone-----	9	154	
Shale, sandy-----	10	164	
Slate, dark-----	10	174	

Well 6/9W-25J1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	22	22	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	58	80	
Shale, gray-----	5	85	
Limestone-----	7	92	
Shale-----	28	120	
Shale, limy-----	50	170	
Coal-----	3	173	
Clay-----	7	180	

Well 6/9W-27C1

Type of record: Driller's log. Altitude: About 480 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	16	16	
Hardpan-----	24	40	
Shale, blue-----	20	60	Clay, blue (?)
Sand and gravel-----	5	65	W. B.
Pennsylvanian system:			
Middle series:			
Sandstone-----	5	70	W. B.

Well 6/9W-27E1

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

Quaternary system:			
Recent and Pleistocene (?) series:			
Surface-----	30	30	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/9W-27-E1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene (?) series:			
Muck, blue-----	10	40	
Loam, sandy, little hard-----	28	68	Clay, sandy (?)
Shale, soft-----	12	80	Clay (?)
Sand and slate-----	5	85	W. B.
Gravel and limestone-----	9	94	W. B.
Pennsylvanian system:			
Middle series:			
Sandstone-----	--	94	

Well 6/9W-27L1

Type of record: Driller's log. Altitude: About 480 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand, red-----	20	20	
Sand, gray-----	18	38	
Hardpan-----	49	87	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	2	89	
Coal-----	2	91	W. B.
Limestone, hard-----	3	94	
Shale, gray-----	11	105	
Limestone, broken-----	5	110	W. B.
Limestone, hard-----	6	116	
Red rock-----	4	120	
Limestone, hard-----	5	125	

Well 6/9W-29A3

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

Quaternary system:			
Recent and Pleistocene series:			
Sand-----	47	47	
Pennsylvanian system:			
Middle series:			
Shale-----	20	67	
Limestone-----	3	70	

Well 6/9W-29E1

Type of record: Driller's log. Altitude: About 475 feet.

Record missing-----	22	22	
Quaternary system:			
Recent and Pleistocene series:			
Shale, muddy-----	41	63	Clay (?)
Pennsylvanian system:			
Middle series:			
Coal and slate-----	2	65	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/9W-29E1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Fire clay-----	10	75	
Shale, gray-----	25	100	
Sandstone-----	2	102	
Sandstone-----	63	165	W. B.

Well 6/9W-29J1

Type of record: Driller's log. Altitude: About 474 feet.

Quaternary system:			
Recent and Pleistocene series:			
Top soil-----	8	8	
Mud and sand-----	40	48	
Pennsylvanian system:			
Middle series:			
Limestone-----	8	56	
Shale-----	83	139	
Sandstone-----	77	216	W. B.
Shale-----	34	250	
Limestone-----	19	269	
Shale, dark-----	24	293	
Limestone-----	12	305	
Shale-----	38	343	
Sandstone-----	14	357	
Limestone-----	11	368	T. D. 1,450 ft.

Well 6/9W-34D1

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

Quaternary system:			
Recent and Pleistocene series:			
Sand, yellow-----	42	42	
Sand, gray-----	8	50	
Pennsylvanian system:			
Middle series:			
Shale, soft-----	12	62	
Shale, sandy-----	18	80	
Shale, gray-----	22	102	
Shale, sandy-----	13	115	
Sandstone-----	12	127	W. B.
Shale, gray-----	3	130	
Limestone, hard-----	5	135	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/9W-34N1

Type of record: Driller's log. Altitude: About 475 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand-----	28	28	
Pennsylvanian system:			
Middle series:			
Shale-----	9	37	
Shale, black-----	8	45	
Shale, hard-----	15	60	
Coal-----	6	66	
Shale-----	24	90	

Well 6/9W-35K1

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

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand and gravel-----	24	24	
Hardpan, yellow-----	2	26	
Sand-----	1	27	W. B.
Hardpan, gray-----	23	50	
Pennsylvanian system:			
Middle series:			
Shale-----	11	61	

Well 6/9W-36D1

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

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Pennsylvanian system:			
Middle series:			
Shale-----	9	24	
Limestone-----	5	29	
Shale, hard-----	61	90	

Well 6/9W-36R1

Type of record: Driller's log. Altitude: About 480 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	17	17	
Pennsylvanian system:			
Middle series:			
Shale-----	20	37	
Limestone-----	7	44	
Shale-----	8	52	
Rock ledges-----	4	56	Thin beds of limestone in shale (?)

Table 2.-- Selected well logs, Sullivan County, Indiana--Continued

Well 6/9W-36R1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale-----	4	60	

Well 6/10W-2L1

Type of record: Driller's log. Altitude: About 430 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	6	6	
Sand and coarse gravel-----	4	10	W. B.
Gravel, coarse, and some sand----	20	30	W. B.
Sand, coarse, and some gravel----	3	33	W. B.
Gravel, coarse, and some sand with large pebbles-----	12	45	W. B.

Well 6/10W-4M1

Type of record: Driller's log. Altitude: About 430 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil, clay, and sand-----	20	20	
Gravel, coarse, and little sand--	18	38	W. B.
Sand and little gravel-----	6	44	W. B.

Well 6/10W-5J1

Type of record: Driller's log. Altitude: About 430 feet.

Quaternary system:			
Recent and Pleistocene series:			
Subsoil and gravel-----	10	10	Dry
Gravel and some sand-----	15	25	W. B.
Gravel and 60% sand-----	6	31	W. B.
Gravel and 40% sand-----	4	35	W. B.

Well 6/10W-5J2

Type of record: Driller's log. Altitude: About 430 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and subsoil-----	10	10	
Sand and gravel-----	5	15	W. B.
Gravel and coarse sand, large pebbles-----	10	25	W. B.
Sand and small pea gravel-----	7	32	W. B.
Sand and small gravel, large pebbles-----	8	40	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 6/10W-11P2

Type of record: Driller's log.

Altitude: About 430 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, black, and gravel-----	6	6	
Mud and coarse sand, runny-----	14	20	W. B.
Gravel, coarse, and some sand----	12	32	W. B.
Sand, coarse, and pea gravel-----	8	40	W. B.
Sand, very coarse-----	10	50	W. B.

## Well 6/10W-12M1

Type of record: Driller's log.

Altitude: About 425 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Top soil, sandy-----	3	3	
Sand, gray, and small gravel-----	67	70	W. B.

## Well 6/10W-13H1

Type of record: Driller's log.

Altitude: About 455 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Quicksand, brown-----	85	85	
Gravel, coarse-----	20	105	
Quicksand-----	30	135	
Pennsylvanian system:			
Middle series:			
Slate, white-----	5	140	
Sandstone, gray-----	9	149	W. B.
Slate, white-----	10	159	
Limestone, firm, gray-----	6	165	
Mud, light-----	5	170	
Limestone, soft, gray-----	10	180	
Limestone, sandy, soft-----	5	185	
Sandstone, firm, gray-----	5	190	
Slate, soft, light-----	20	210	
Slate, soft, dark-----	6	216	
Slate, light, dark-----	2	218	
Slate, light-----	5	223	
Limestone, firm, light-----	10	233	
Sandstone, firm, light-----	32	265	
Slate, soft, light-----	17	282	
Limestone, shell-----	2	284	
Shale, dark-----	16	300	
Shale, gritty, light-----	15	315	
Shale, soft, brown-----	17	332	
Limestone, gray-----	4	336	
Slate, soft, dark-----	13	349	
Limestone, hard, brown-----	5	354	
Shale, soft, dark-----	5	359	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/10W-13H1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, sandy, light-----	13	372	
Sandstone, light-----	38	410	T. D. 1, 406 ft.

Well 6/10W-14G1

Type of record: Driller's log.

Altitude: About 430 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	6	6	
Gravel and clay-----	8	14	
Gravel, coarse, some sand and large pebbles-----	4	18	W. B.
Gravel and sand, small-----	6	24	W. B.
Sand, coarse; very little gravel-	4	28	W. B.
Gravel and sand, small-----	4	32	W. B.
Sand, coarse-----	4	36	W. B.
Gravel, small, and little sand---	6	42	W. B.
Sand, coarse, and large gravel---	4	46	W. B.
Gravel, small-----	4	50	W. B.

Well 6/10W-15K1

Type of record: Driller's log.

Altitude: About 430 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil, subsoil, and gravel-----	14	14	
Gravel, good, and little sand----	28	42	W. B.
Sand, coarse-----	7	49	W. B.

Well 6/10W-15K2

Type of record: Driller's log.

Altitude: About 430 feet.

Quaternary system:			
Recent, and Pleistocene series:			
Clay, sand, and gravel-----	18	18	
Sand, coarse, and pea gravel-----	2	20	W. B.
Sand, coarse, and little gravel--	4	24	W. B.
Sand, coarse, gray, and streaks of gravel-----	30	54	W. B.

Well 6/10W-15K3

Type of record: Driller's log.

Altitude: About 430 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand and gravel-----	15	15	Dry
Sand-----	4	19	W. B.
Gravel, coarse-----	3	22	W. B.



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 6/10W-15K3--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, with little gravel-----	3	25	W. B.
Sand, coarse, and some gravel----	5	30	W. B.
Sand, coarse, and little gravel--	13	43	W. B.
Sand, and pea gravel-----	2	45	W. B.

Well 6/10W-26Q1

Type of record: Driller's log.	Altitude: About 435 feet.		
Record missing-----	89	89	
Pennsylvanian system:			
Middle (?) series:			
Shale, sandy-----	26	115	
Sandstone-----	15	130	
Shale, dark-----	17	147	
Limestone-----	3	150	
Shale, dark-gray-----	17	167	
Limestone-----	6	173	
Shale, sandy, light-----	37	210	
Sandstone-----	8	218	
Shale, gray-----	5	223	
Coal-----	2	225	
Shale, gray-----	10	235	
Sandstone-----	35	270	W. B.
Shale, gray-----	9	279	
Slate, black-----	4	283	
Shale, dark-----	7	290	
Sandstone-----	5	295	
Shale, gray-----	60	355	
Slate, black-----	5	360	
Shale, sandy, light-----	65	425	T. D. 812 ft.

Well 6/10W-27L1

Type of record: Sample study (examined by L. E. Workman)	Altitude: About 435 feet.		
Quaternary system:			
Recent and Pleistocene series:			
Surface-----	10	10	Driller's log .0-87 ft.
Sand and gravel-----	77	87	
Pennsylvanian system:			
Middle series:			
Clay, sandy, calcareous, white (like fire clay), grading to white, compact, calcareous, very-fine sandstone-----	19	106	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 6/10W-27L1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks.
Pennsylvanian system:			
Middle series:			
Shale, weak, blue and gray; sample contains considerable calcareous, fine gravel, thrown in or caved-----	3	109	
Shale, weak, gray; same gravel as above-----	5	114	
Shale, sandy, weak, micaceous, blue and brown, with brown and light-brown, very fine, semi-lithographic limestone---	14	128	
Limestone, semi-lithographic, brown; and brown, fine-grained, sandy, argillaceous, limestone; large bryozoa fragments; blue, weak shale associated with sandy limestone; some brown, weak shale-----	10	138	
Sandstone, very-fine, argil- laceous, friable, gray, and light-gray and blue, weak shale; some sandy and semi- lithographic limestone, and brown, weak shale-----	30	168	
Sandstone, very-fine, argil- laceous, carbonaceous, mica- ceous, compact, gray; a few chips of limestone as above, caved-----	9	177	
Siltstone, argillaceous, carbon- aceous, micaceous, fairly firm, gray-----	11	188	
Coal, conchoidal fracture prominent, bright-----	2	190	
Shale, slightly sandy, plastic, pink (fire clay)-----	3	193	
Shale, slightly sandy, plastic, pink; and gray, micaceous, weak, sandy shale; a few chips of coal and limestone, caved-----	7	200	

## Well 6/10W-34B1

Type of record: Driller's log.

Altitude: About 422 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and gravel-----	93	93	
Pennsylvanian system:			
Middle (?) series:			
Shale-----	3	96	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 6/10W-34B1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Sandstone-----	24	120	W. B.
Slate, black-----	9	129	
Shale-----	34	163	
Limestone-----	7	170	
Shale, gray-----	20	190	
Shale, sandy-----	30	220	
Shale, gray-----	11	231	
Limestone, broken-----	9	240	
Sandstone-----	15	255	
Shale-----	28	283	
Sandstone-----	7	290	
Shale-----	8	298	
Shale, muddy-----	14	312	
Shale, sandy-----	8	320	
Shale, gray-----	20	340	
Coal-----	5	345	
Shale-----	5	350	
Limestone-----	5	355	
Shale-----	25	380	T. D. 1,572 ft.

## Well 7/8W-1J1

Type of record: Driller's log.

Altitude: About 600 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and gravel-----	30	30	
Pennsylvanian system:			
Middle series:			
Shale-----	8	38	W. B.
Coal and fire clay-----	7	45	
Shale, sandy-----	33	78	
Sandstone-----	65	143	

## Well 7/8W-1L1

Type of record: Driller's log.

Altitude: About 610 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	27	27	
Pennsylvanian system:			
Middle series:			
Sandstone-----	13	40	
Shale, light-----	5	45	
Coal-----	4	49	
Fire clay-----	6	55	
Shale, light-----	5	60	
Sandstone-----	20	80	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/8W-1L1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, light-----	3	83	
Mine opening-----	--	83	

Well 7/8W-1N1

Type of record: Driller's log.

Altitude: About 605 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	14	14	
Hardpan-----	6	20	
Pennsylvanian system:			
Middle series:			
Sandstone-----	15	35	
Shale, dark-----	15	50	
Coal-----	6	56	
Fire clay-----	6	62	
Sandstone-----	18	80	
Shale, gray-----	9	89	
Slate, black-----	3	92	
Coal-----	4	96	Shot opening into mine.

Well 7/8W-1P2

Type of record: Driller's log.

Altitude: About 580 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	12	12	
Hardpan-----	11	23	
Pennsylvanian system:			
Middle series:			
Sandstone-----	12	35	
Coal-----	4	39	
Fire clay-----	4	43	
Sandstone-----	25	68	
Shale, brown-----	8	76	
Coal-----	6	82	Opening into mine.

Well 7/8W-2C1

Type of record: Driller's log.

Altitude: About 580 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	16	16	
Hardpan-----	4	20	
Pennsylvanian system:			
Middle series:			
Sandstone-----	25	45	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/8W-2C1--Continued

Material	Thick-ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Slate, gray-----	15	60	
Coal-----	4	64	
Fire clay-----	3	67	
Shale, sandy-----	7	74	W. B.
Shale, dark-----	12	86	
Slate, dark-----	13	99	
Coal-----	5	104	
Slate, dark-----	2	106	

Well 7/8W-2C2

Type of record: Driller's log

Altitude: About 580 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	20	20	
Pennsylvanian system:			
Middle series:			
Sandstone-----	12	32	
Shale, sandy-----	28	60	
Slate, gray-----	10	70	
Coal-----	5	75	
Fire clay-----	3	78	
Shale, sandy-----	12	90	
Sandstone-----	20	110	W. B.
Shale, dark-----	2	112	

Well 7/8W-2D1

Type of record: Driller's log.

Altitude: About 540 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	15	15	
Hardpan-----	4	19	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	30	49	
Coal-----	2	51	
Fire clay-----	3	54	
Shale, gray-----	3	57	
Sandstone-----	4	61	W. B.
Shale, sandy-----	6	67	

Well 7/8W-2E1

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Hardpan and clay-----	21	21	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/8W-2E1--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, soft-----	5	26	
Shale, gray-----	19	45	
Coal-----	4	49	W. B.
Fire clay-----	4	53	
Limestone-----	4	57	
Shale, sandy-----	8	65	W. B.

## Well 7/8W-2F1

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

Record missing-----	25	25	
Pennsylvanian system:			
Middle series:			
Sandstone-----	18	43	W. B.
Shale, gray-----	9	52	
Slate, dark-----	16	68	
Coal and fire clay-----	7	75	
Limestone, hard, and sandstone---	3	78	W. B.
Sandstone-----	10	88	W. B.

## Well 7/8W-2F2

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

Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	20	20	
Pennsylvanian system:			
Middle series:			
Sandstone-----	18	38	W. B.
Slate, gray-----	24	62	
Coal-----	4	66	
Fire clay-----	3	69	
Shale, sandy-----	13	82	W. B.
Shale, dark-----	8	90	

## Well 7/8W-2Q1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	14	14	
Pennsylvanian system:			
Middle series:			
Sandstone-----	50	64	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/8W-2Q2

Type of record: Driller's log.

Altitude: About 575 feet.

Material	Thick-ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay and sand-----	21	21	
Pennsylvanian system:			
Middle series:			
Sandstone-----	14	35	
Shale, gray-----	26	61	
Coal-----	4	65	
Fire clay-----	2	67	
Shale, gray-----	8	75	
Sandstone-----	8	83	W. B.
Shale, gray-----	10	93	
Slate, dark-----	7	100	
Coal-----	5	105	Mine opening.

Well 7/8W-2R1

Type of record: Driller's log.

Altitude: About 580 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow, and hardpan-----	16	16	
Pennsylvanian system:			
Middle series:			
Sandstone-----	16	32	
Shale, light-----	8	40	
Coal-----	3	43	
Fire clay-----	7	50	
Shale, light-----	5	55	
Sandstone-----	9	64	
Mine opening-----	--	64	

Well 7/8W-3A1

Type of record: Driller's log.

Altitude: About 540 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	20	20	
Pennsylvanian system:			
Middle series:			
Sandstone-----	18	38	W. B.
Slate, gray-----	23	61	
Coal-----	5	66	
Shale, dark-----	10	76	W. B.
Limestone, hard-----	4	80	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/8W-3A3

Type of record: Driller's log.

Altitude: About 530 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	12	12	
Hardpan-----	6	18	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	32	50	
Coal-----	3	53	W. B.
Fire clay-----	3	56	
Limestone, sandy-----	5	61	W. B.
Shale, sandy-----	6	67	

## Well 7/8W-5G1

Type of record: Driller's log.

Altitude: About 530 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene (?) series:			
Top soil-----	12	12	
Shale, sandy, red-----	5	17	Sandy clay (?)
Fire clay and gravel-----	10	27	
Muck, blue-----	24	51	
Pennsylvanian system:			
Middle series:			
Shale-----	39	90	
Sandstone-----	20	110	
Coal, trace-----	--	110	
Fire clay-----	5	115	
Shale, gray-----	8	123	

## Well 7/8W-6H1

Type of record: Driller's log.

Altitude: About 525 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	20	20	
Hardpan, brown-----	10	30	
Clay, yellow-----	20	50	
Clay, blue-----	6	56	
Hardpan-----	3	59	
Pennsylvanian system:			
Middle series:			
Coal-----	2.5	61.5	
Fire clay, white-----	2.5	64	
Sandstone, brown-----	1	65	
Limestone, sandy-----	14	79	
Slate, blue-----	13	92	
Coal-----	5	97	W. B., gas
Slate, black-----	5	102	
Fire clay-----	4	106	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/8W-6H1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, light-----	4	110	
Sandstone, light-----	7	117	
Slate, gray-----	6	123	
Coal-----	2	125	
Fire clay-----	5	130	
Limestone, shaly-----	10	140	
Slate, gray-----	14	154	
Sandstone, light-----	28	182	
Shale, sandy-----	7	189	
Sandstone, light-----	19	208	W. B., dead oil
Shale, sandy, blue-----	8	216	
Sandstone, light-----	23	239	
Shale, blue-----	27	266	
Slate, black-----	5	271	
Shale, sandy, light-----	18	293	
Sandstone, light-----	49	342	
Coal, soft-----	4	346	
Sandstone, hard, and limestone---	12	358	
Coal-----	7	365	Gas
Limestone, shell, gray-----	1	366	
Sandstone, soft, white-----	39	405	W. B.

## Well 7/8W-6L1

Type of record: Driller's log.

Altitude: About 505 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	6	6	
Hardpan, yellow-----	11	17	
Hardpan, gray-----	4	21	
Sand, gray-----	5	26	Gas
Hardpan, solid, gray-----	11	37	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	7	44	
Shale, sandy, gray-----	14	58	
Shale, gray-----	10	68	
Coal-----	3	71	
Fire clay-----	8	79	
Limestone, sandy, hard-----	11	90	W. B.
Shale, gray-----	10	100	
Slate, dark-----	2	102	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/8W-8E1

Type of record: Driller's log.

Altitude: About 490 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	14	14	
Sand-----	6	20	
Hardpan-----	35	55	
Pennsylvanian system:			
Middle series:			
Shale-----	5	60	
Slate, black-----	11	71	
Coal-----	2	73	W. B.
Fire clay, cavey-----	3	76	
Limestone-----	2	78	
Shale, sandy-----	12	90	
Sandstone-----	29	119	
Shale, dark-----	6	125	
Slate, black-----	6	131	

## Well 7/8W-9A1

Type of record: Driller's log.

Altitude: About 520 feet.

Dug well-----	15	15	
Pennsylvanian system:			
Middle series:			
Slate-----	10	25	
Shale, gray-----	36	61	
Coal-----	4	65	
Fire clay-----	3	68	
Shale, gray-----	7	75	

## Well 7/8W-9D1

Type of record: Driller's log.

Altitude: About 480 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Pennsylvanian system:			
Middle (?) series:			
Sandstone, red-----	7	25	
Sandstone, gray-----	20	45	
Shale, light-----	16	61	
Limestone-----	2	63	
Shale-----	2	65	
Limestone-----	--	65	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/8W-10G1  
 Type of record: Driller's log. Altitude: About 525 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface-----	16	16	
Sand-----	3	19	
Pennsylvanian system:			
Middle series:			
Shale-----	8.5	27.5	
Limestone-----	2	29.5	
Shale, gray-----	15.5	45	
Shale, sandy-----	10	55	
Sandstone-----	6	61	
Shale, dark-----	4	65	
Coal-----	1	66	

Well 7/8W-10N1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface-----	19	19	
Pennsylvanian system:			
Middle series:			
Sandstone-----	16	35	
Shale, gray-----	20	55	
Coal-----	2.5	57.5	
Fire clay-----	8	65.5	
Shale-----	9.5	75	
Sandstone-----	47	122	
Shale, dark-----	--	122	

Well 7/8W-10P1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface-----	13.5	13.5	
Clay, sandy, yellow-----	5.5	19	
Pennsylvanian system:			
Middle series:			
Sandstone, gray-----	17	36	
Shale, sandy-----	29	65	
Coal-----	2.5	67.5	
Fire clay-----	6.5	74	
Shale, sandy, hard-----	13	87	
Sandstone-----	13	100	
Shale, white-----	4	104	
Shale, dark-----	9.5	113.5	
Coal-----	2	115.5	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/8W-10P1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Dirty band-----	2	117.5	Mine opening.
Coal-----	1.5	119	
Fire clay and shale-----	6	125	

## Well 7/8W-12C1

Type of record: Driller's log.

Altitude: About 590 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	14	14	
Hardpan-----	6	20	
Pennsylvanian system:			
Middle series:			
Slate, gray-----	3	23	
Coal-----	3	26	
Fire clay-----	3	29	
Sandstone-----	24	53	
Slate, dark-----	6	59	
Mine opening-----	5	64	

## Well 7/8W-12D2

Type of record: Driller's log.

Altitude: About 600 feet.

Quaternary system:			
Recent and Pleistocene series:			
Earth-----	10.5	10.5	
Pennsylvanian system:			
Middle series:			
Sandstone-----	19.5	30	
Shale-----	5	35	
Shale, blue-----	10	45	
Coal-----	4	49	
Shale, clayey-----	7	56	
Sandstone-----	12	68	
Limestone-----	10	78	
Sandstone, hard-----	25	103	
Shale-----	3	106	
Coal-----	8.5	114.5	
Shale, black-----	2.5	117	
Sulphur-----	1	118	
Shale, clayey, very soft, very light-----	7	125	
Shale, very soft, black-----	10	135	
Shale, very soft, black, occa- sional concretion-----	8	143	
Sandstone, very hard-----	2.5	145.5	
Shale, dark-blue-----	4	149.5	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/8W-12D2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, gray-----	8.5	158	
Limestone, very hard-----	2	160	
Shale, black-----	6	166	
Coal-----	6	172	
Shale, black-----	2	174	

Well 7/8W-14J1

Type of record: Driller's log.

Altitude: About 580 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface-----	17	17	
Pennsylvanian system:			
Middle series:			
Shale, sandy, gray-----	10	27	
Shale, dark-gray-----	24	51	
Coal-----	3	54	
Fire clay-----	3	57	
Shale, sandy, gray-----	1.5	58.5	
Sandstone-----	33.5	92	
Shale, dark-----	11	103	
Coal-----	5	108	
Shale, dark-----	6	114	
Slate, black-----	5	119	
Shale, gray-----	3	122	
Sandstone-----	18	140	
Shale, dark-----	8	148	

Well 7/8W-14K1

Type of record: Driller's log.

Altitude: About 605 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface-----	15	15	
Pennsylvanian system:			
Middle series:			
Sandstone-----	25	40	
Shale, gray-----	8	48	
Coal-----	3	51	
Fire clay-----	3	54	
Shale, sandy, gray-----	10	64	
Sandstone-----	29	93	
Shale, gray-----	10	103	
Coal-----	5	108	
Shale, hard, dark-----	4	112	
Shale, dark-----	7	119	
Shale, gray-----	9	128	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/8W-14K1--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Sandstone-----	29	157	
Shale, dark-----	1	158	
Limestone, blue-----	5	163	
Slate, black-----	1	164	
Coal-----	4	168	
Sandstone-----	35	203	
Shale, sandy, dark-----	35	238	
Shale, light-gray-----	23	261	
Slate, black-----	3	264	
Coal-----	3	267	
Fire clay-----	3	270	
Sandstone-----	2	272	

## Well 7/8W-15C1

Type of record: Driller's log.

Altitude: About 560 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface-----	19	19	
Pennsylvanian system:			
Middle series:			
Sandstone-----	13	32	
Shale, gray-----	25	57	
Coal-----	3	60	
Fire clay-----	5	65	
Sandstone-----	6	71	
Shale, sandy-----	7	78	
Sandstone-----	25	103	W. B.
Shale, dark-----	2	105	

## Well 7/8W-15G1

Type of record: Driller's log.

Altitude: About 550 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface-----	15	15	
Pennsylvanian system:			
Middle series:			
Sandstone-----	19	34	
Shale-----	3	37	
Sandstone-----	3	40	
Shale, sandy-----	22.5	62.5	
Coal-----	3.5	66	
Fire clay-----	9	75	
Shale, sandy, hard-----	23	98	
Sandstone, white-----	14	112	
Shale, dark-----	3.5	115.5	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/8W-15G1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Coal and dirty band-----	7	122.5	
Hard bottoms-----	4.5	127	
Fire clay-----	3	130	
Shale, blue-----	15	145	
Limestone-----	1.5	146.5	
Shale-----	14.5	161	
Sandstone-----	2	163	
Shale, sandy, dark-----	8	171	
Limestone-----	2.5	173.5	
Slate, black-----	1.5	175	
Coal-----	5.5	180.5	
Fire clay-----	4.5	185	
Sandstone, white-----	15	200	
Shale, sandy, white-----	7	207	
Shale, blue-----	6	213	
Sandstone-----	7	220	
Shale, sandy-----	21	241	
Sandstone-----	24	265	
Shale-----	21	286	
Slate, black-----	4	290	
Coal-----	1	291	
Fire clay-----	10	301	
Shale, sandy-----	8	309	
Coal-----	3	312	
Shale-----	13	325	
Sandstone-----	4	329	
Shale-----	14	343	
Slate, black-----	5	348	
Coal-----	2	350	
Fire clay-----	11	361	
Shale-----	12	373	Salt water.
Coal-----	7	380	
Sandstone-----	2.5	382.5	

## Well 7/8W-15G2

Type of record: Driller's log.

Altitude: About 550 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface-----	15	15	
Pennsylvanian system:			
Middle series:			
Sandstone-----	19	34	
Shale-----	3	37	
Sandstone-----	3	40	
Shale, sandy-----	22.5	62.5	
Coal-----	5.5	68	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/8W-15G2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Fire clay-----	6	74	
Shale, sandy, hard-----	23	97	
Sandstone, white-----	14	111	W. B.

## Well 7/8W-15Q1

Type of record: Driller's log.

Altitude: About 595 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface-----	15	15	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	7	22	
Sandstone-----	20	42	
Shale, sandy, gray-----	29	71	
Coal-----	4	75	
Fire clay-----	6	81	
Sandstone-----	6	87	W. B.
Shale, sandy-----	45	132	W. B.

## Well 7/8W-18B1

Type of record: Driller's log.

Altitude: About 529 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil-----	5	5	
Clay, yellow-----	15	20	
Pennsylvanian system:			
Middle series:			
Sandstone-----	45	65	
Shale-----	42	107	
Coal-----	5	112	
Shale-----	8	120	
Limestone, sandy-----	10	130	
Limestone-----	10	140	
Shale-----	80	220	
Limestone-----	2	222	
Shale-----	23	245	
Sandstone-----	55	300	
Shale-----	20	320	
Limestone-----	5	325	
Coal-----	5	330	
Shale-----	120	450	T. D. 2,460 ft.



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/8W-18F1

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

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	9	9	
Hardpan-----	11	20	
Pennsylvanian system:			
Middle series:			
Sandstone, gray-----	30	50	

Well 7/8W-18K1

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil-----	10	10	
Pennsylvanian system:			
Middle series:			
Sandstone, brown-----	15	25	
Sandstone, gray-----	10	35	W. B.
Coal, trace-----	--	35	
Fire clay-----	3	38	

Well 7/8W-19H1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	20	20	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	9	29	
Sandstone, yellow-----	19	48	
Coal and slate-----	2	50	
Fire clay-----	4	54	
Shale, soft, gray-----	18	72	
Limestone-----	3	75	
Slate and limestone-----	6	81	
Limestone, hard-----	3	84	
Limestone, sandy-----	16	100	
Sandstone, broken, dark-----	59	159	W. B.

Well 7/8W-25P1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	16	16	
Pennsylvanian system:			
Middle series:			
Sandstone-----	5	21	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/8W-25P1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Slate, gray-----	11	32	
Coal-----	1	33	
Fire clay-----	2	35	
Shale, light-----	8	43	
Shale, sandy-----	12	55	
Shale, dark-----	13	68	
Mine opening-----	5	73	

## Well 7/8W-27R1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	12	12	
Pennsylvanian system:			
Middle series:			
Sandstone-----	8	20	
Shale-----	20	40	

## Well 7/8W-29B1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	15	15	
Pennsylvanian system:			
Middle series:			
Sandstone, light-----	22	37	
Slate, light-----	15	52	
Limestone, hard, light-----	4	56	
Slate, soft-----	4	60	
Sandstone, soft-----	12	72	
Slate, white-----	12	84	
Slate, dark-----	15	99	
Limestone, hard, gray-----	46	145	Sandstone (?)
Slate, soft, dark-----	2	147	
Coal-----	4	151	
Slate, soft, dark-----	12	163	
Coal-----	5	168	
Slate, soft, light-----	47	215	
Limestone, hard, brown-----	52	267	
Coal, soft-----	5	272	
Slate, soft, light-----	7	279	
Slate, sandy, light-----	41	320	
Slate, soft, dark-----	35	355	T. D. 826 ft.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/8W-29F1

Type of record: Driller's log.

Altitude: About 550 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, soft, yellow-----	15	15	
Sand, soft, yellow-----	7	22	
Sand, firm, yellow-----	21	43	
Mud, soft, blue-----	2	45	
Pennsylvanian system:			
Middle series:			
Sandstone, firm, light-----	23	68	
Sandstone, hard, light-----	2	70	
Slate, soft, green-----	8	78	
Sandstone, firm, gray-----	14	92	
Slate, soft, dark-----	33	125	
Slate, shelly, firm, dark-----	43	168	
Coal, soft-----	6	174	
Slate, soft, dark-----	5	179	
Limestone, medium, light-----	1	180	
Slate, soft, light-----	3	183	
Sandstone, firm, broken, light---	17	200	
Slate, soft, dark-----	8	208	
Slate and coal, soft, dark-----	10	218	Little gas.
Slate, soft, light-----	23	241	
Sandstone, soft, light-----	3	244	W. B.
Slate, soft, dark-----	25	269	
Limestone, hard, brown-----	4	273	
Slate, soft, dark-----	4	277	
Coal, soft-----	3	280	
Slate, soft, dark-----	4	284	
Sandstone, firm, broken, light---	16	300	
Slate, soft, muddy, dark-----	94	394	
Limestone, medium, gray-----	1	395	
Slate and coal, soft, dark-----	5	400	T. D. 824 ft.

## Well 7/8W-29L1

Type of record: Driller's log.

Altitude: About 550 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, soft-----	21	21	
Pennsylvanian system:			
Middle series:			
Sandstone, light-----	20	41	
Limestone, hard-----	22	63	
Slate, dark-----	8	71	
Sandstone, light-----	9	80	
Slate, dark-----	83	163	
Coal, soft-----	3	166	W. B.
Slate-----	9	175	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/8W-29L1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Sandstone, light-----	23	198	
Coal, soft-----	9	207	
Slate, soft-----	71	278	
Sandstone, light-----	8	286	
Slate, dark-----	98	384	
Limestone, dark-----	3	387	
Slate, dark-----	2	389	
Coal-----	3	392	
Slate, dark-----	38	430	T. D. 1,067 ft.

## Well 7/8W-30R1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Pennsylvanian system:			
Middle series:			
Shale-----	7	22	
Sandstone-----	10	32	
Shale-----	8	40	

## Well 7/8W-31D1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Pennsylvanian system:			
Middle series:			
Shale-----	4	22	
Limestone-----	3	25	
Shale-----	25	50	

## Well 7/8W-32E1

Type of record: Driller's log. Altitude: About 480 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	18	18	
Mud and sand-----			
Quicksand-----	5	62	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	3	65	
Shale, sandy-----	7	72	W. B.
Shale, dark-----	6	78	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/8W-32E2

Type of record: Driller's log.

Altitude: About 480 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	20	20	
Mud and sand-----	21	41	
Pennsylvanian system:			
Middle series:			
Limestone, sandy-----	4	45	W. B.
Shale, sandy-----	9	54	
Shale, dark-----	11	65	
Shale, sandy-----	7	72	
Sandstone-----	48	120	W. B.
Shale, dark-----	6	126	
Coal-----	4	130	
Fire clay-----	1	131	

Well 7/8W-35A1

Type of record: Driller's log.

Altitude: About 585 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, red-----	20	20	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	3	23	
Sandstone, gray-----	12	35	
Shale, sandy-----	9	44	
Limestone, brown-----	4	48	
Limestone, sandy-----	6	54	W. B.
Shale, gray-----	28	82	
Coal-----	5	87	
Shale, white-----	6	93	
Sandstone, light-----	7	100	W. B.
Limestone, brown-----	4	104	
Shale, dark-----	19	123	W. B.

Well 7/8W-35A2

Type of record: Driller's log.

Altitude: About 585 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	20	20	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	4	24	
Sandstone, gray-----	12	36	
Shale, sandy, gray-----	9	45	
Sandstone, gray-----	7	52	W. B.
Shale, gray-----	1	53	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/8W-36R1

Type of record: Driller's log.

Altitude: About 495 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface-----	8	8	
Pennsylvanian system:			
Middle series:			
Shale-----	14	22	
Coal-----	2	24	
Shale-----	4	28	
Sandstone-----	22	50	

## Well 7/9W-1C1

Type of record: Driller's log.

Altitude: About 480 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Record missing-----	22	22	
Quaternary system:			
Recent and Pleistocene series:			
Hardpan-----	8	30	
Pennsylvanian system:			
Middle series:			
Sandstone-----	25	55	
Shale, sandy, and limestone-----	17	72	
Shale, dark-----	3	75	
Coal-----	3	78	W. B.

## Well 7/9W-1F1

Type of record: Driller's log.

Altitude: About 485 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Clay and gravel-----	7	22	
Pennsylvanian system:			
Middle series:			
Sandstone-----	32	54	
Shale, gray-----	18	72	
Coal-----	2	74	
Fire clay-----	6	80	
Shale, gray-----	5	85	
Limestone, shells-----	3	88	
Sandstone-----	7	95	
Shale, gray-----	9	104	
Slate, dark-----	9	113	
Coal-----	2	115	
Slate and fire clay-----	12	127	
Limestone and sandstone-----	13	140	
Slate, dark-----	5	145	
Coal-----	2	147	
Fire clay-----	3	150	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/9W-1F1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Sandstone-----	50	200	
Slate-----	8	208	
Coal-----	2	210	
Limestone, sandy-----	17	227	
Sandstone-----	33	260	Gas
Coal-----	2	262	
Sandstone-----	31	293	
Coal-----	2	295	
Sandstone-----	30	325	
Slate, black-----	8	333	
Sandstone-----	37	370	Show of oil
Slate-----	8	378	Gas
Coal-----	2	380	
Fire clay-----	5	385	
Limestone, sandy-----	7	402	T. D. 1,050 ft.

Well 7/9W-1M1

Type of record: Driller's log.

Altitude: About 476 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	14	14	
Sand and gravel-----	13	27	
Pennsylvanian system:			
Middle series:			
Sandstone, blue-gray-----	15	42	
Shale, dark-----	8	50	
Shale, sandy-----	8	58	
Shale, gray-----	20	78	
Coal-----	2	80	
Fire clay-----	4	84	
Limestone, dolomitic, sandy-----	7	91	
Limestone, hard-----	5	96	
Limestone, sandy-----	5	101	
Shale, gray-----	11	112	
Slate, dark-----	7	119	
Coal-----	5	124	
Slate, black-----	5	129	
Shale, light-----	8	137	
Limestone-----	2	139	
Sandstone-----	6	145	
Slate, gray-----	6	151	
Coal-----	2	153	
Limestone, broken-----	12	165	
Shale, sandy, gray-----	17	182	
Shale, dark-----	26	208	
Slate, black-----	22	230	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/9W-1M1--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Coal-----	6	236	
Shale, sandy-----	24	260	
Sandstone, dark-----	6	266	
Limestone, sandy-----	6	272	
Coal-----	2	274	
Sandstone, gray-----	27	301	
Coal-----	2	303	
Shale, dark-----	19	322	
Sandstone and limestone broken---	3	325	
Shale, sandy, dark-----	15	340	
Slate, black-----	4	344	
Slate, dark-brown, limestone, and little sandstone-----	5	349	
Slate, shaly, black, and coal---	4	353	
Shale, gray-----	16	369	
Limestone, sandy-----	3	372	
Sandstone, gray-----	3	375	
Coal-----	1	376	
Sandstone-----	7	383	
Shale, light-----	5	388	
Limestone, broken-----	4	392	
Sandstone, gray-----	11	403	
Sandstone, broken-----	14	417	
Shale, sandy-----	4	421	
Coal-----	4	425	

## Well 7/9W-3E1

Type of record: Driller's log.

Altitude: About 470 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and sand-----	14	14	
Hardpan-----	11	25	
Hardpan, gray-----	33	58	
Clay, gray-----	22	80	
Sand-----	16	96	W. B.
Clay, soft-----	10	106	
Gravel and coal-----	4	110	W. B.
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	20	130	
Shale, gray-----	12	142	
Slate, black-----	7	149	
Coal-----	2	151	W. B.
Shale, light-----	6	157	
Shale, dark-----	9	166	
Limestone, sandy-----	4	170	W. B.
Shale, sandy-----	7	177	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/9W-3G1

Type of record: Driller's log.

Altitude: About 490 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, red-----	21	21	
Hardpan-----	37	58	
Pennsylvanian system:			
Middle series:			
Shale, light-----	17	75	
Shale, sandy-----	15	90	
Slate, gray-----	14	104	
Coal-----	3	107	W. B.
Fire clay-----	3	110	
Sandstone-----	11	121	W. B.
Shale, gray-----	3	124	

Well 7/9W-4A1

Type of record: Driller's log.

Altitude: About 480 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	16	16	
Hardpan-----	4	20	
Sand and gravel-----	46	66	
Mud, green-----	28	94	
Sand-----	12	106	
Gravel, coarse-----	4	110	W. B.
Pennsylvanian system:			
Middle series:			
Coal-----	1	111	
Shale, sandy-----	4	115	

Well 7/9W-4E2

Type of record: Driller's log.

Altitude: About 479 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Clay, sandy-----	10	25	
Pennsylvanian system:			
Middle (?) series:			
Sandstone-----	20	45	
Sandstone-----	20	65	W. B.
Slate-----	20	85	
Slate, white-----	2	87	
Limestone-----	7	94	
Slate-----	3	97	
Red rock-----	3	100	
Slate-----	3	103	
Sandstone-----	10	113	
Slate-----	5	118	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/9W-4E2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Sandstone-----	5	123	
Shale, sandy-----	20	143	
Shale-----	17	160	
Shale, sandy-----	25	185	
Coal-----	5	190	
Shale-----	10	200	
Sandstone-----	10	210	
Shale, sandy-----	12	222	
Slate, dark-----	3	225	
Coal-----	8	233	
Slate-----	14	247	
Shale, sandy-----	5	252	
Slate, white-----	13	265	
Slate, gray-----	5	270	
Shale-----	13	283	
Shale, dark-----	4	287	
Slate, sandy, white-----	6	293	
Sandstone, hard-----	12	305	
Slate, sandy, white-----	15	320	
Slate, gray-----	10	330	
Shale, sandy-----	41	371	
Shale-----	20	391	
Limestone, dark-----	4	395	
Shale, dark, and coal-----	15	410	T. D. 731 ft.

Well 7/9W-4J1

Type of record: Driller's log.

Altitude: About 470 feet.

Quaternary system:			
Recent and Pleistocene series:			
Mud and hardpan-----	68	68	
Pennsylvanian system:			
Middle series:			
Sandstone-----	27	95	W. B.
Shale, sandy-----	5	100	

Well 7/9W-4J2

Type of record: Driller's log.

Altitude: About 475 feet.

Record missing-----	28	28	
Quaternary system:			
Recent and Pleistocene series:			
Mud and sand-----	46	74	
Pennsylvanian system:			
Middle series:			
Sandstone-----	24	98	W. B.
Shale, dark-----	6	104	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/9W-4K1

Type of record: Driller's log.

Altitude: About 480 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface-----	16	16	
Hardpan-----	16	32	
Pennsylvanian system:			
Middle series:			
Limestone-----	1	33	
Shale, gray-----	2	35	
Limestone-----	5	40	
Shale, gray-----	5	45	
Red rock-----	5	50	
Limestone-----	2	52	
Shale, sandy-----	18	70	
Shale, gray-----	5	75	
Limestone, hard-----	2	77	
Sandstone-----	38	115	
Shale, sandy-----	12	127	
Shale, dark-----	8	135	
Coal-----	1	136	
Fire clay-----	3	139	
Shale, gray-----	31	170	
Shale, dark-----	6	176	
Coal-----	4	180	Gas
Shale, gray-----	17	197	
Limestone, sandy-----	10	207	
Shale, gray-----	8	215	
Shale, dark-----	12	227	
Shale, sandy, dark-----	13	240	
Slate-----	6	246	
Shale, sandy-----	4	250	
Sandstone-----	22	272	
Shale, dark-----	30	302	
Limestone-----	2	304	
Shale, gray-----	30	334	
Slate and coal-----	6	340	
Shale, light-----	19	359	
Limestone-----	1	360	
Shale, gray-----	10	370	
Limestone-----	5	375	
Shale, dark-----	3	378	T. D. 800 ft.

Well 7/9W-5J1

Type of record: Driller's log.

Altitude: About 500 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	18	18	
Hardpan-----	6	24	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/9W-5J1--Continued

Material	Thick-ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Limestone, shelly-----	2	26	
Shale, sandy-----	19	45	
Sandstone, white-----	55	100	W. B.
Limestone, hard-----	8	108	
Shale, dark-----	4	112	
Limestone, sandy-----	7	119	
Shale, sandy-----	17	136	
Coal-----	2	138	
Shale, sandy-----	14	152	W. B.

Well 7/9W-5J2

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

Record missing-----	20	20	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	10	30	
Limestone, hard-----	3	33	
Shale, sandy-----	11	44	
Sandstone-----	62	106	W. B.
Limestone, hard-----	5	111	
Shale, dark-----	9	120	
Sandstone-----	15	135	
Shale, dark-----	5	140	
Slate and coal-----	5	145	W. B.
Sandstone-----	35	180	W. B.

Well 7/9W-5P1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	17	17	
Mud, gray, and sand-----	21	38	
Mud, green-----	21	59	
Pennsylvanian system:			
Middle series:			
Slate, blue-----	3	62	
Shale, sandy-----	7	69	W. B.
Limestone, hard-----	15	84	
Shale, dark-----	6	90	

Well 7/9W-5Q1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	17	17	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/9W-5Q1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Shale, yellow-----	16	33	Clay (?)
Pennsylvanian system:			
Middle series:			
Shale, dark-----	3	36	
Shale, gray-----	6	42	
Sandstone-----	71	113	W. B.
Shale, light-----	2	115	

## Well 7/9W-6C1

Type of record: Driller's log.

Altitude: About 542 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	25	25	
Pennsylvanian system:			
Middle (?) series:			
Shale-----	10	35	
Limestone-----	3	38	
Shale-----	14	52	
Shale, sandy-----	28	80	
Limestone, broken-----	25	105	
Limestone, brown-----	5	110	W. B.
Sandstone-----	49	159	
Shale-----	7	166	
Limestone, brown-----	5	171	
Shale, red-----	4	175	
Shale-----	6	181	
Sandstone-----	3	184	
Limestone, gray-----	16	200	T. D. 800 ft.

## Well 7/9W-6Q1

Type of record: Driller's log.

Altitude: About 536 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	
Pennsylvanian system:			
Middle (?) series:			
Shale-----	5	25	
Sandstone-----	5	30	
Shale-----	30	60	
Coal-----	2	62	
Shale, gray-----	3	65	
Limestone-----	4	69	
Shale-----	16	85	
Sandstone-----	48	133	W. B.
Shale-----	15	148	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/9W-6Q1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Limestone-----	5	153	
Shale-----	3	156	
Red rock-----	2	158	
Shale-----	118	276	
Coal-----	3	279	Gas
Shale-----	33	312	
Coal-----	2	314	Gas
Shale-----	93	407	
Sandstone-----	48	455	W. B., gas; T. D. 827 ft.

Well 7/9W-7C1

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	30	30	
Pennsylvanian system:			
Middle (?) series:			
Shale-----	16	46	
Coal-----	2	48	
Shale-----	29	77	
Sandstone-----	55	132	W. B.
Shale-----	5	137	
Limestone-----	4	141	
Red rock-----	1	142	
Shale-----	82	224	
Coal-----	3	227	
Shale-----	35	262	
Coal-----	3	265	
Shale-----	125	390	
Coal-----	3	393	Gas
Shale-----	7	400	
Sandstone-----	60	460	Gas; T. D. 1,194 ft.

Well 7/9W-8K1

Type of record: Driller's log.

Altitude: About 485 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and gravel-----	25	25	
Mud, gray-----	15	40	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	46	86	
Coal-----	1	87	
Shale, gray-----	18	105	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/9W-8K1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Limestone-----	5	110	
Shale, gray-----	3	113	
Red rock-----	4	117	
Shale, gray-----	2	119	
Limestone-----	2	121	
Sandstone-----	4	125	
Shale-----	10	135	
Limestone-----	2	137	
Shale-----	10	147	
Sandstone-----	13	160	
Shale-----	35	195	
Coal-----	5	200	
Shale-----	33	233	
Coal and black slate-----	10	243	
Shale-----	27	270	
Coal-----	3	273	Gas
Slate, black-----	3	276	
Limestone-----	9	285	
Coal-----	3	288	Gas
Shale-----	12	300	
Sandstone-----	15	315	
Shale-----	60	375	
Slate, black, and coal-----	6	381	Gas
Sandstone-----	59	440	Show of oil; T. D. 806 ft.

Well 7/9W-8P1

Type of record: Driller's log.

Altitude: About 480 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	15	15	
Hardpan-----	35	50	
Pennsylvanian system:			
Middle series:			
Shale, soft-----	10	60	
Shale, gray-----	5	65	
Shale, sandy-----	13	78	
Sandstone-----	25	103	W. B.
Shale, gray-----	5	108	

Well 7/9W-8R1

Type of record: Driller's log.

Altitude: About 480 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and soil-----	25	25	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/9W-8R1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, light-----	9	34	W. B.
Sandstone-----	8	42	
Shale, dark-----	28	70	

Well 7/9W-9A1

Type of record: Driller's log. Altitude: About 485 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and sand-----	20	20	
Hardpan, gray-----	7	27	
Pennsylvanian system:			
Middle series:			
Shale-----	4	31	W. B.
Limestone-----	5	36	
Red rock and muddy shale-----	9	45	W. B.
Shale, dark-----	35	80	
Sandstone, dark-----	40	120	
Shale, dark-----	6	126	
Coal-----	2	128	

Well 7/9W-9F1

Type of record: Driller's log. Altitude: About 480 feet.

Record missing-----	52	52	
Pennsylvanian system:			
Middle series:			
Limestone-----	1	53	
Shale-----	15	68	
Limestone-----	1	69	
Shale-----	2	71	
Limestone-----	4	75	
Shale-----	10	85	
Limestone-----	3	88	
Shale-----	12	100	
Coal-----	11	111	
Shale, sandy-----	34	145	
Slate-----	3	148	
Shale, sandy-----	18	166	
Coal-----	3	169	
Shale, sandy-----	27	196	
Slate-----	12	208	
Coal-----	7	215	
Shale, gray-----	28	243	
Slate-----	3	246	
Coal-----	2	248	
Shale-----	34	282	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/9W-9F1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Slate-----	3	285	
Coal-----	4	289	
Shale-----	18	307	

Well 7/9W-9H1

Type of record: Driller's log.		Altitude: About 500 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	30	30	
Coal-----	1	31	
Hardpan-----	23	54	
Pennsylvanian system:			
Middle series:			
Limestone-----	1	55	
Shale, gray-----	1	56	
Limestone-----	4	60	
Red rock-----	8	68	
Limestone, sandy-----	6	74	

Well 7/9W-10D1

Type of record: Driller's log.		Altitude: About 480 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Hardpan and gravel-----	13	28	
Pennsylvanian system:			
Middle series:			
Limestone-----	1	29	
Shale-----	2	31	
Limestone-----	5	36	
Shale, gray-----	19	55	
Shale, dark-----	5	60	
Shale, gray-----	8	68	

Well 7/9W-10M1

Type of record: Driller's log.		Altitude: About 480 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Hardpan-----	12	30	
Shale-----	10	40	Clay (?)
Hardpan-----	35	75	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/9W-10M1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale-----	5	80	
Coal-----	1	81	
Shale, sandy-----	31	112	
Shale, dark-----	24	136	
Coal-----	4	140	
Fire clay-----	4	144	
Shale, gray-----	14	158	
Sandstone-----	17	175	
Slate, dark-----	3	178	
Coal-----	9	187	
Shale-----	11	198	
Coal-----	2	200	W. B.
Shale, gray-----	24	224	
Limestone-----	6	230	
Shale, dark-----	40	270	
Slate, black-----	3	273	
Coal-----	7	280	

## Well 7/9W-10N1

Type of record: Driller's log. Altitude: About 465 feet.

Record missing-----	24	24	
Quaternary system:			
Recent and Pleistocene series:			
Hardpan-----	32	58	
Pennsylvanian system:			
Middle series:			
Shale, light-----	7	65	
Slate, gray-----	15	80	
Sandstone, dark-----	10	90	W. B.
Shale, sandy-----	15	105	
Shale, dark-----	5	110	
Coal-----	2	112	
Fire clay-----	3	115	
Shale, dark-----	10	125	
Limestone, hard-----	5	130	W. B.
Shale, light-----	3	133	
Shale, sandy-----	7	140	
Shale, dark-----	14	154	
Coal-----	--	154	

## Well 7/9W-14A1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	16	16	
Hardpan-----	9	25	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/9W-14A1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, gray-----	5	30	
Slate, dark-----	9	39	
Coal-----	2	41	
Shale, gray-----	7	48	
Shale, sandy-----	26	74	
Shale, sandy-----	21	95	W. B.
Shale, dark-----	8	103	
Coal-----	5	108	
Fire clay-----	4	112	
Shale, dark-----	10	122	
Shale, sandy-----	6	128	
Slate, dark-----	14	142	
Coal-----	6	148	W. B.
Slate, dark-----	5	153	
Shale, gray-----	6	159	
Limestone, broken-----	4	163	

## Well 7/9W-14J1

Type of record: Driller's log.

Altitude: About 515 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	12	12	
Hardpan-----	14	26	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	16	42	W. B.
Limestone-----	2	44	
Shale-----	2	46	
Limestone-----	2	48	
Red rock-----	2	50	
Shale, limy, broken-----	15	65	
Shale, dark-----	37	102	W. B.
Sandstone-----	33	135	
Slate, dark-----	3	138	
Coal-----	3	141	
Fire clay-----	7	148	
Limestone-----	3	151	
Sandstone-----	11	162	
Shale, light-----	5	167	

## Well 7/9W-15M1

Type of record: Driller's log.

Altitude: About 450 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	6	6	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/9W-15M1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, runny-----	10	16	
Clay-----	9	25	
Pennsylvanian system:			
Middle series:			
Sandstone-----	55	80	
Shale, gray-----	2	82	
Limestone-----	3	85	
Shale, sandy, gray-----	9	94	
Limestone-----	1	95	
Shale, sandy, gray-----	86	181	
Coal-----	2	183	
Shale, gray-----	7	190	
Limestone-----	3	193	
Sandstone-----	27	220	W. B.
Slate, black, and coal-----	5	225	
Shale, gray-----	5	230	
Sandstone-----	20	250	
Shale, sandy, gray-----	38	288	
Limestone-----	2	290	
Slate, black, and coal-----	6	296	
Shale, gray-----	41	337	
Sandstone-----	13	350	
Shale, sandy, gray-----	25	375	
Sandstone-----	10	385	
Shale, gray-----	15	400	T. D. 815 ft.

Well 7/9W-16B1

Type of record: Driller's log.

Altitude: About 460 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	15	15	
Hardpan-----	13	28	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	16	44	
Limestone, hard-----	1	45	
Shale, gray-----	2	47	
Limestone, hard-----	5	52	
Red rock-----	8	60	
Limestone, hard-----	1	61	
Shale, sandy-----	20	81	
Slate and coal-----	4	85	
Shale, sandy, dark-----	15	100	
Shale, dark-----	10	110	
Shale, sandy, dark-----	20	130	
Slate, dark-----	8	138	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/9W-16B1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Coal-----	4	142	W. B
Shale, gray-----	8	150	
Limestone, hard-----	1	151	
Sandstone-----	4	155	
Shale, dark-----	17	172	
Shale, gray-----	7	179	
Coal-----	7	186	
Fire clay-----	4	190	
Shale, dark-----	12	202	
Limestone, hard-----	4	206	
Shale, gray-----	13	219	
Slate, dark-----	2	221	
Coal-----	2	223	
Limestone, hard-----	5	228	
Slate, dark-----	2	230	

Well 7/9W-16B2

Type of record: Driller's log.

Altitude: About 470 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	22	22	
Hardpan-----	18	40	
Pennsylvanian system:			
Middle series:			
Shale, soft-----	25	65	W. B., gas.
Limestone-----	1	66	
Shale-----	3	69	
Limestone, hard-----	6	75	
Shale; trace of red rock-----	12	87	
Limestone, sandy-----	8	95	
Shale, sandy, broken-----	15	110	
Shale, dark-----	6	116	
Limestone-----	2	118	
Shale, sandy-----	21	139	
Shale, dark-----	33	172	
Coal-----	3	175	
Fire clay-----	3	178	
Shale, gray-----	7	185	
Sandstone, gray-----	10	195	
Shale, light-----	10	205	
Shale, dark-----	5	210	
Slate, black-----	3	213	
Coal-----	4	217	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/9W-16D1

Type of record: Driller's log.

Altitude: About 480 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	16	16	
Hardpan-----	6	22	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	6	28	
Coal, trace-----	--	28	
Shale, gray-----	56	84	
Sandstone-----	18	102	
Shale, light-gray-----	3	105	

Well 7/9W-18D1

Type of record: Driller's log.

Altitude: About 520 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	18	18	
Pennsylvanian system:			
Middle (?) series:			
Sandstone, red-----	7	25	
Shale, light-----	20	45	
Shale, dark-----	15	60	
Slate, broken-----	15	75	
Shale, dark-----	14	89	
Limestone, hard-----	4	93	
Coal-----	1	94	
Shale, light-----	11	105	
Limestone, sandy-----	20	125	
Shale, dark-----	25	150	
Coal-----	1	151	
Fire clay-----	4	155	
Shale, light-----	15	170	
Limestone, hard-----	5	175	
Red rock-----	5	180	
Shale, light-----	5	185	
Limestone, hard-----	4	189	
Shale, light-----	4	193	
Limestone, broken-----	12	205	
Shale, dark-----	10	215	
Sandstone, dark-----	30	245	
Shale, dark-----	17	262	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/9W-20J1

Type of record: Driller's log.

Altitude: About 460 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Hardpan-----	12	30	
Shale, soft-----	47	77	Clay (?)
Hardpan-----	11	88	
Sand and gravel-----	6	94	W. B.

Well 7/9W-21F1

Type of record: Driller's log.

Altitude: About 450 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	18	18	
Mud, gravelly-----	42	60	
Clay, yellow-----	9	69	
Pennsylvanian system:			
Middle series:			
Limestone, hard-----	6	75	
Shale, soft, dark-gray-----	10	85	
Shale, pink, and soft red rock---	10	95	
Shale, sandy-----	75	170	
Coal-----	2	172	
Shale-----	10	182	
Sandstone, limy-----	120	302	Gas 208 to 215 ft.
Coal-----	6	308	

Well 7/9W-21P1

Type of record: Driller's log.

Altitude: About 450 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	18	18	
Mud, blue-----	55	73	
Quicksand-----	12	85	
Sand and red rock-----	2	87	
Gravel, coarse-----	3	90	W. B.

Well 7/9W-22Q1

Type of record: Driller's log.

Altitude: About 465 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface and yellow clay-----	15	15	
Pennsylvanian system:			
Middle series:			
Sandstone-----	33	48	W. B.
Limestone, brown-----	2	50	
Shale, light-----	3	53	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/9W-2201--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Limestone, hard-----	2	55	
Shale, soft-----	5	60	
Shale, dark-----	6	66	
Limestone-----	3	69	
Shale, sandy-----	13	82	
Sandstone, brown-----	9	91	W. B.
Limestone, hard-----	2	93	
Shale, dark-----	4	97	

## Well 7/9W-2202

Type of record: Driller's log.

Altitude: About 415 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and sand-----	17	17	
Pennsylvanian system:			
Middle series:			
Sandstone, yellow-----	8	25	
Sandstone, gray-----	8	33	W. B.
Shale-----	2	35	
Sandstone-----	7	42	W. B.
Limestone-----	1	43	

## Well 7/9W-23E1

Type of record: Driller's log.

Altitude: About 455 feet.

Record missing-----	146	146	
Pennsylvanian system:			
Middle series:			
Coal and fire clay-----	14	160	
Limestone, hard-----	4	164	
Sandstone-----	21	185	W. B.
Shale, dark-----	24	209	
Limestone, hard-----	2	211	
Shale, dark-----	2	213	
Coal-----	3	216	
Shale, dark-----	11	227	
Shale, gray-----	16	243	
Sandstone-----	13	256	W. B.
Shale, dark-----	18	274	
Sandstone, white-----	20	294	W. B.
Shale, dark-----	8	302	
Slate, black-----	2	304	
Limestone, hard-----	3	307	
Coal-----	2	309	
Shale, dark-----	2	311	
Fire clay-----	4	315	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/9W-23K1

Type of record: Driller's log.

Altitude: About 472 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	34	34	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	41	75	
Shale, dark-----	25	100	
Shale, sandy-----	46	146	W. B.
Coal-----	2	148	
Shale, gray-----	26	174	
Sandstone-----	11	185	
Shale, sandy, dark-----	29	214	
Coal-----	2	216	
Shale, sandy, gray-----	44	260	
Sandstone, broken-----	15	275	W. B.
Shale, dark-----	17	292	
Limestone-----	5	297	
Shale-----	23	320	
Sandstone-----	65	385	T. D. 1,207 ft.

Well 7/9W-23L1

Type of record: Driller's log.

Altitude: About 465 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface-----	18	18	
Sand-----	7	25	
Pennsylvanian system:			
Middle series:			
Sandstone-----	45	70	
Shale, black-----	5	75	
Fire clay-----	10	85	
Sandstone-----	50	135	
Coal-----	3	138	
Fire clay-----	12	150	
Shale, gray-----	25	175	
Sandstone-----	19	194	W. B.
Limestone-----	3	197	
Shale, dark-----	3	200	
Limestone-----	6	206	
Coal-----	2	208	
Limestone-----	32	240	
Sandstone-----	23	263	
Shale, gray-----	9	272	
Limestone, hard, dark-----	4	276	
Slate, dark-----	5	281	
Shale, gray-----	39	320	
Sandstone, soft, white-----	35	355	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/9W-23L1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, dark-----	34	389	
Coal-----	2	391	
Sandstone-----	9	400	T. D. 1,216 ft.

Well 7/9W-25E1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	18	18	
Pennsylvanian system:			
Middle series:			
Sandstone-----	42	60	W. B.
Limestone-----	3	63	
Fire clay-----	4	67	
Sandstone-----	7	74	W. B.
Fire clay-----	4	78	

Well 7/9W-26E1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	17	17	
Pennsylvanian system:			
Middle series:			
Sandstone-----	49	66	W. B.
Shale, dark-----	8	74	
Limestone, hard-----	3	77	
Shale, dark-----	1	78	

Well 7/9W-26E2

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

Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	20	20	
Pennsylvanian system:			
Middle series:			
Sandstone-----	42	62	W. B.
Shale, sandy-----	10	72	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/9W-26G1

Type of record: Driller's log.

Altitude: About 510 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	19	19	
Pennsylvanian system:			
Middle (?) series:			
Sandstone-----	18	37	
Shale, gray-----	11	48	
Limestone, hard-----	3	51	
Shale, gray-----	4	55	
Red rock, cavey-----	4	59	
Limestone, hard-----	3	62	
Shale, sandy-----	6	68	
Shale, dark-----	12	80	
Sandstone-----	32	112	
Shale, sandy-----	19	131	

## Well 7/9W-26N1

Type of record: Driller's log.

Altitude: About 495 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface and muddy clay-----	17	17	
Pennsylvanian system:			
Middle series:			
Shale-----	10	27	
Sandstone, hard-----	16	43	
Sandstone, white-----	8	51	

## Well 7/9W-27D1

Type of record: Driller's log.

Altitude: About 450 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	17	17	
Pennsylvanian system:			
Middle series:			
Sandstone, dark-----	5	22	
Sandstone, white-----	33	55	W. B.
Shale, dark-----	4	59	
Limestone, hard-----	2	61	
Fire clay-----	6	67	

## Well 7/9W-27H1

Type of record: Driller's log.

Altitude: About 485 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	15	15	
Hardpan-----	13	28	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/9W-27H1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Sandstone-----	19	47	
Sandstone, dark-----	6	53	
Limestone, hard-----	2	55	
Shale, dark-----	3	58	
Limestone, hard-----	2	60	
Shale, dark-----	2	62	

Well 7/9W-27L1

Type of record: Driller's log.

Altitude: About 480 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	18	18	
Pennsylvanian system:			
Middle series:			
Sandstone-----	9	27	
Muck, blue-----	3	30	
Sandstone-----	14	44	W. B.
Shale, blue-----	1	45	
Sandstone-----	7	52	W. B.
Coal-----	1	53	
Fire clay-----	1	54	
Sandstone, white-----	24	78	W. B.
Limestone, hard-----	3	81	
Shale, dark-----	15	96	
Shale, gray-----	8	104	
Shale, dark-----	9	113	
Shale, sandy-----	13	126	
Limestone, hard-----	3	129	
Sandstone-----	13	142	W. B.
Shale, sandy-----	10	152	

Well 7/9W-27R1

Type of record: Driller's log.

Altitude: About 500 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	18	18	
Pennsylvanian system:			
Middle series:			
Sandstone-----	9	27	
Muck, blue-----	3	30	
Sandstone-----	14	44	W. B.
Shale, blue-----	1	45	
Sandstone-----	7	52	W. B.
Coal-----	1	53	
Fire clay-----	1	54	
Sandstone, white-----	26	80	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/9W-28N1

Type of record: Driller's log.

Altitude: About 450 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Record missing-----	55	55	
Quaternary system:			
Recent and Pleistocene series:			
Quicksand and gravel-----	25	80	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	9	89	
Sandstone-----	17	106	W. B.

Well 7/9W-30G1

Type of record: Driller's log.

Altitude: About 480 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and sand-----	18	18	
Shale, soft, blue-----	6	24	Clay (?)
Hardpan-----	50	74	
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	14	88	
Sandstone-----	20	108	W. B.
Shale, dark-----	9	117	
Red rock-----	3	120	
Shale, gray-----	7	127	
Limestone, hard-----	5	132	W. B.
Shale, gray-----	5	137	
Sandstone, broken-----	13	150	

Well 7/9W-33C1

Type of record: Driller's log.

Altitude: About 460 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	34	34	
Pennsylvanian system:			
Middle (?) series:			
Sandstone-----	26	60	W. B.
Limestone-----	1	61	
Shale, dark-----	7	68	
Limestone, broken-----	7	75	
Shale, light-----	12	87	
Slate, gray-----	3	90	
Limestone, sandy-----	8	98	
Sandstone-----	26	124	W. B.
Shale, gray-----	15	139	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/9W-34E1

Type of record: Driller's log.

Altitude: About 480 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	10	10	
Gravel and sand-----	10	20	
Mud, yellow-----	12	32	
Pennsylvanian system:			
Middle series:			
Sandstone-----	50	82	
Sandstone, broken-----	2	84	
Limestone, broken-----	6	90	
Shale-----	50	140	
Shale, sandy-----	35	175	
Coal-----	2	177	
Shale, gray-----	5	182	
Sandstone-----	18	200	
Shale, gray-----	12	212	
Coal and black slate-----	6	218	
Shale, sandy-----	8	226	
Limestone-----	2	228	
Shale-----	21	249	
Coal-----	5	254	
Shale, green-----	2	256	
Sandstone-----	11	267	
Shale-----	38	305	
Sandstone-----	45	350	
Sandstone, broken-----	23	373	T. D. 1,284 ft.

Well 7/9W-35A1

Type of record: Driller's log.

Altitude: About 495 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	25	25	
Gravel-----	7	32	
Pennsylvanian system:			
Middle series:			
Sandstone-----	37	69	W. B.
Limestone, hard-----	3	72	
Shale, dark-----	27	99	
Slate, gray-----	3	102	
Coal-----	1	103	W. B.
Shale, dark-----	9	112	
Shale, sandy-----	13	125	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/9W-35D1

Type of record: Driller's log.

Altitude: About 490 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	19	19	
Mud, soft, and sand-----	16	35	
Pennsylvanian system:			
Middle series:			
Sandstone, white-----	40	75	W. B.
Shale-----	5	80	

Well 7/10W-1D1

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	10	10	
Sand-----	10	20	
Pennsylvanian system:			
Middle (?) series:			
Shale, white-----	10	30	
Shale, dark-----	15	45	
Limestone-----	2	47	
Shale, gray-----	8	55	
Limestone-----	2	57	
Shale, gray-----	33	90	
Shale, black-----	5	95	
Shale, gray-----	15	110	
Sandstone, gray-----	28	138	
Shale, gray-----	2	140	
Sandstone, gray-----	35	175	
Limestone-----	1	176	
Shale, gray-----	4	180	
Limestone, gray-----	5	185	
Mud, red-----	8	193	
Limestone, gray-----	2	195	
Shale-----	20	215	
Coal-----	3	218	
Shale, gray-----	52	270	
Coal-----	1	271	
Limestone-----	9	280	
Shale, gray-----	72	352	
Coal-----	4	356	
Shale, gray-----	10	366	
Coal-----	5	371	T. D. 802 ft.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/10W-2C1

Type of record: Driller's log.

Altitude: About 530 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Pennsylvanian system:			
Middle (?) series:			
Shale-----	25	43	
Coal-----	1	44	
Fire clay-----	3	47	
Sandstone-----	10	57	
Shale, dark-----	19	76	
Limestone-----	2	78	
Shale, dark-----	16	94	
Shale, sandy-----	29	123	
Coal-----	1	124	W. B.
Fire clay-----	4	128	
Limestone-----	2	130	
Shale, sandy-----	17	147	
Sandstone-----	37	184	

## Well 7/10W-2F1

Type of record: Driller's log.

Altitude: About 528 feet.

Quaternary system:			
Recent and Pleistocene series:			
Drift-----	40	40	
Pennsylvanian system:			
Middle (?) series:			
Shale, dark-----	5	45	
Coal-----	2	47	
Shale-----	5	52	
Limestone, brown-----	2	54	
Sandstone, hard-----	6	60	
Shale, dark-----	13	73	
Coal-----	1	74	
Shale, dark-----	7	81	
Limestone, brown-----	2	83	
Shale, sandy, gray-----	20	103	
Sandstone-----	7	110	
Coal-----	1	111	
Sandstone-----	96	207	
Limestone, gray-----	2	209	
Limestone, hard, brown-----	9	218	
Red rock-----	7	225	
Shale, sandy-----	78	303	
Coal-----	2	305	
Shale, sandy-----	47	352	
Coal-----	2	354	
Shale, black-----	16	370	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-2F1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	21	391	
Limestone-----	4	395	
Coal-----	2	397	T. D. 1,725 ft.

Well 7/10W-2K1

Type of record: Driller's log.

Altitude: About 531 feet.

Quaternary system:			
Recent and Pleistocene series:			
Drift-----	40	40	
Pennsylvanian system:			
Middle series:			
Redrock-----	10	50	
Shale, dark-----	5	55	
Limestone, hard, brown-----	2	57	
Shale, gray-----	36	93	
Coal-----	1	94	
Shale-----	15	109	
Limestone-----	1	110	
Coal-----	1	111	
Shale-----	13	124	
Sandstone-----	63	187	W. B.
Limestone, gray-----	2	189	
Shale, gray-----	2	191	
Limestone, hard, brown-----	4	195	
Red rock-----	10	205	
Limestone, sandy-----	6	211	
Shale, sandy-----	9	220	
Sandstone, broken-----	26	246	
Shale, sandy, dark-----	31	277	
Coal-----	2	279	
Shale, sandy, gray-----	36	315	
Shale, dark-----	11	326	
Coal-----	2	328	Gas
Shale, dark-----	14	342	
Limestone, brown-----	4	346	
Shale, gray-----	18	364	
Coal-----	2	366	
Shale-----	2	368	
Limestone, brown-----	4	372	
Coal-----	7	379	
Shale-----	7	386	
Limestone-----	3	389	T. D. 2,659 ft.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-2L1

Type of record: Driller's log. Altitude: About 519 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Drift-----	20	20	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	7	27	
Coal-----	1	28	
Shale, gray-----	30	58	
Limestone, hard, brown-----	4	62	
Shale, gray-----	38	100	
Coal-----	2	102	
Shale, gray-----	23	125	
Sandstone-----	60	185	W. B.
Shale, muddy, gray-----	8	193	
Limestone, hard, brown-----	4	197	
Red rock-----	8	205	
Shale-----	32	237	
Sandstone, hard-----	33	270	
Shale, dark-----	19	289	
Coal-----	2	291	
Shale, muddy, gray-----	5	296	
Shale, sandy-----	34	330	
Shale, black-----	5	335	
Coal-----	2	337	Gas
Shale, dark-----	14	351	
Limestone, brown-----	4	355	
Shale, sandy, gray-----	16	371	
Sandstone-----	4	375	
Coal-----	1	376	Gas
Shale, sandy, dark-----	5	381	
Limestone, hard, brown-----	4	385	
Coal-----	2	387	Gas
Shale, sandy-----	9	396	T. D. 2,709 ft.

Well 7/10W-2N1

Type of record: Driller's log. Altitude: About 519 feet.

Quaternary system:			
Recent and Pleistocene series:			
Drift-----	26	26	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	44	70	
Limestone-----	3	73	
Shale, sandy-----	39	112	
Coal-----	2	114	
Shale, sandy-----	41	155	
Sandstone-----	39	194	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-2N1--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, gray-----	5	199	
Limestone, hard, brown-----	7	206	
Shale, muddy, gray-----	8	214	
Shale, sandy-----	43	257	
Sandstone-----	18	275	
Shale, dark-----	24	299	
Coal-----	2	301	
Shale, muddy-----	42	343	
Coal-----	3	346	
Shale, dark-----	14	360	
Shale, sandy, gray-----	10	370	T. D. 841 ft.
Well 7/10W-2P1			
Type of record: Driller's log.		Altitude: About 522 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Drift-----	20	20	
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	75	95	
Coal-----	1	96	
Shale-----	10	106	
Limestone, brown-----	2	108	
Shale-----	6	114	
Sandstone-----	64	178	W. B.
Shale, gray-----	3	181	
Limestone-----	1	182	
Shale-----	1	183	
Limestone, hard, brown-----	4	187	
Shale-----	7	194	
Shale, sandy-----	30	224	
Sandstone, hard-----	36	260	
Shale-----	14	274	
Coal-----	2	276	
Shale, sandy-----	9	285	
Sandstone, hard-----	20	305	
Shale-----	14	319	
Coal-----	2	321	
Shale-----	15	336	
Limestone, brown-----	3	339	
Shale-----	18	357	
Coal-----	2	359	Gas
Shale-----	6	365	
Limestone, hard, brown-----	3	368	
Shale, dark-----	4	372	
Coal-----	1	373	Gas; T. D. 1,335 ft.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/10W-2P1

Type of record: Driller's log.

Altitude: About 522 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Drift-----	20	20	
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	75	95	
Coal-----	1	96	
Shale-----	10	106	
Limestone, brown-----	2	108	
Shale-----	6	114	
Sandstone-----	64	178	W. B.
Shale, gray-----	3	181	
Limestone-----	1	182	
Shale-----	1	183	
Limestone, hard, brown-----	4	187	
Shale-----	7	194	
Shale, sandy-----	30	224	
Sandstone, hard-----	36	260	
Shale-----	14	274	
Coal-----	2	276	
Shale, sandy-----	9	285	
Sandstone, hard-----	20	305	
Shale-----	14	319	
Coal-----	2	321	
Shale-----	15	336	
Limestone, brown-----	3	339	
Shale-----	18	357	
Coal-----	2	359	Gas
Shale-----	6	365	
Limestone, hard, brown-----	3	368	
Shale, dark-----	4	372	
Coal-----	1	373	Gas; T. D. 1,335 ft.

## Well 7/10W-3D1

Type of record: Driller's log.

Altitude: About 470 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	
Gravel-----	7	27	
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	75	102	
Shale, black-----	5	107	
Shale, sandy, gray-----	33	140	
Sandstone, gray-----	56	196	
Limestone-----	5	201	
Red rock-----	8	209	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-3D1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Limestone-----	2	211	
Shale, gray-----	21	232	
Coal-----	2	234	
Shale, gray-----	54	288	
Coal-----	2	290	
Shale, gray-----	6	296	
Limestone, hard-----	4	300	
Sandstone-----	6	306	
Shale, gray-----	31	337	
Coal-----	5	342	
Shale, gray-----	25	374	
Coal-----	3	377	
Shale, gray-----	13	390	
Limestone, hard-----	4	394	T. D. 800 ft.

Well 7/10W-4A1

Type of record: Driller's log.

Altitude: About 490 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and mud-----	24	24	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	6	30	
Sandstone-----	8	38	W. B.
Shale, gray-----	30	68	
Slate, dark-----	8	76	
Limestone, hard-----	4	80	
Sandstone-----	38	118	W. B.
Shale, dark-----	9	127	

Well 7/10W-4J1

Type of record: Driller's log.

Altitude: About 490 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Hardpan-----	42	60	
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	30	90	
Shale, dark-----	14	104	
Limestone-----	1	105	
Sandstone-----	15	120	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-4R2

Type of record: Driller's log.

Altitude: About 488 feet.

Material	Thick ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	17	17	
Gravel-----	3	20	
Hardpan-----	27	47	
Clay, sandy, green-----	13	60	W. B.
Pennsylvanian system:			
Middle (?) series:			
Shale, sandy-----	27	87	
Slate-----	7	94	
Sandstone-----	15	109	
Limestone-----	6	115	
Sandstone-----	56	171	
Shale, gray-----	18	189	
Limestone-----	6	195	
Shale, green-----	3	198	
Shale, gray-----	2	200	
Red rock-----	3	203	
Limestone, sandy-----	7	210	
Shale, gray-----	23	233	
Limestone-----	7	240	
Limestone, sandy-----	27	267	
Shale, gray-----	11	278	
Coal-----	3	281	
Sandstone-----	8	289	
Limestone-----	5	294	
Shale (?), sandy-----	28	322	
Slate, black-----	6	328	
Sandstone-----	1	329	
Coal-----	3	332	
Slate, black-----	3	335	
Shale, gray-----	32	367	
Coal-----	3	370	
Shale, dark-----	13	383	
Shale, sandy-----	5	388	
Sandstone-----	5	393	Gas; T. D. 840 ft.

Well 7/10W-5J1

Type of record: Driller's log.

Altitude: About 482 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	20	20	
Clay, sandy-----	12	32	
Pennsylvanian system:			
Middle (?) series:			
Shale-----	53	85	
Sandstone-----	10	95	W. B.
Shale-----	10	105	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/10W-5J1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Sandstone-----	15	120	
Shale-----	20	140	
Shale, gray-----	34	174	
Sandstone-----	10	184	
Coal-----	1	185	
Shale, gray-----	4	189	
Sandstone-----	2	191	
Shale-----	12	203	
Shale, dark-----	6	209	
Red rock and green shale-----	9	218	
Shale, sandy, gray-----	47	265	
Shale, gray-----	41	306	
Limestone, gray-----	5	311	
Shale, sandy-----	31	342	
Coal-----	3	345	
Shale, gray-----	31	376	
Coal-----	2	378	
Shale, dark-----	18	396	
Coal-----	2	398	T. D. 1,779 ft.

## Well 7/10W-6H1

Type of record: Driller's log.

Altitude: About 525 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand, yellow-----	25	25	
Quicksand-----	15	40	W. B.
Pennsylvanian system:			
Middle series:			
Shale, soft-----	8	48	
Shale, dark-----	28	76	
Coal and black slate-----	2	78	W. B.
Fire clay-----	3	81	
Shale, dark-----	9	90	
Shale, sandy-----	28	118	
Sandstone, light-----	8	126	W. B.
Shale, dark-----	5	131	

## Well 7/10W-6H2

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand, red-----	20	20	
Mud, blue-----	10	30	
Mud, red, and gravel-----	12	42	
Gravel-----	4	46	W. B.
Mud, blue-----	1	47	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-6K1

Type of record: Driller's log.

Altitude: About 540 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, red-----	15	15	W. B.
Quicksand, white-----	15	30	
Pennsylvanian system:			
Middle series:			
Shale, soft-----	20	50	
Shale, gray-----	10	60	
Slate, dark, and coal-----	8	68	
Shale, dark-----	17	85	
Slate, coal-----	4	89	
Shale, sandy-----	26	115	
Slate, dark-----	4	119	
Coal-----	3	122	
Shale, sandy-----	16	138	
Shale, dark-----	12	150	

Well 7/10W-6L1

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand, red-----	20	20	
Clay, dark-----	8	28	
Hardpan and boulders-----	15	43	
Pennsylvanian system:			
Middle series:			
Limestone, hard-----	2	45	W. B.
Slate, black, and coal-----	6	51	
Fire clay-----	3	54	
Shale, gray-----	36	90	
Slate, black-----	4	94	
Coal-----	3	97	
Shale, gray-----	6	103	
Limestone, brown-----	3	106	
Shale, sandy-----	12	118	

Well 7/10W-6L2

Type of record: Driller's log.

Altitude: About 490 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil, sandy, and clay-----	12	12	
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	64	76	
Coal-----	5	81	
Shale-----	5	86	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-6L2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Sandstone-----	6	92	
Shale-----	65	157	
Slate, black-----	5	162	
Shale-----	33	195	
Sandstone-----	55	250	
Limestone-----	3	253	
Shale-----	7	260	
Red rock-----	3	263	
Shale, gray-----	80	343	
Coal-----	3	346	
Shale-----	14	360	
Limestone-----	1	361	
Shale-----	25	386	
Coal-----	4	390	
Limestone-----	1	391	
Shale-----	12	403	T. D. 872 ft.

Well 7/10W-7G1

Type of record: Driller's log.

Altitude: About 535 feet.

Quaternary system:			
Recent and Pleistocene series:			
Fill and clay-----	25	25	
Hardpan-----	6	31	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	7	38	
Shale, dark-----	23	61	
Slate and coal-----	4	65	
Fire clay-----	2	67	
Shale, gray-----	27	94	
Coal-----	3	97	W. B.
Fire clay-----	3	100	
Limestone, hard-----	3	103	
Shale, gray-----	32	135	
Sandstone-----	40	175	W. B.
Limestone, hard-----	2	177	
Shale, dark-----	3	180	

Well 7/10W-7P2

Type of record: Driller's log.

Altitude: About 570 feet.

Record missing-----	54	54	
Pennsylvanian system:			
Upper series:			
Sandstone-----	10	64	
Middle series:			
Limestone-----	1	65	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-7P2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	2	67	
Shale, dark-----	18	85	
Limestone-----	2	87	
Slate, dark-----	7	94	
Coal-----	2	96	
Fire clay-----	7	103	
Shale, sandy-----	9	112	

Well 7/10W-7P4

Type of record: Driller's log.

Altitude: About 560 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	15	15	
Sand and mud-----	23	38	
Pennsylvanian system:			
Upper series:			
Sandstone-----	23	61	W. B.
Limestone-----	6	67	W. B.
Slate, black-----	1	68	

Well 7/10W-8H1

Type of record: Driller's log.

Altitude: About 470 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Hardpan-----	30	48	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	37	85	
Limestone-----	1	86	
Shale, gray-----	11	97	
Sandstone-----	25	122	
Slate, black-----	4	126	
Coal-----	1	127	
Fire clay-----	1	128	

Well 7/10W-9E2

Type of record: Driller's log.

Altitude: About 459 feet.

Quaternary system:			
Recent and Pleistocene series:			
Drift-----	60	60	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	10	70	
Coal-----	1	71	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-9E2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, gray-----	29	100	
Sandstone, hard-----	2	102	
Shale, sandy-----	23	125	
Red rock-----	2	127	
Shale, sandy-----	49	176	
Limestone, gray-----	2	178	
Shale-----	4	182	
Limestone-----	1	183	
Shale-----	4	187	
Limestone, brown-----	4	191	
Shale, gray-----	2	193	
Red rock-----	1	194	
Shale-----	11	205	
Limestone, white-----	10	215	
Shale, dark-----	15	230	
Shale, sandy-----	44	274	
Coal-----	2	276	
Shale, sandy-----	7	283	
Sandstone-----	12	295	
Shale, sandy-----	30	325	
Coal-----	1	326	
Limestone-----	2	328	
Shale-----	27	355	
Shale, brown-----	15	370	
Limestone-----	7	377	
Coal-----	3	380	T. D. 805 ft.

Well 7/10W-9F3

Type of record: Driller's log.

Altitude: About 464 feet.

Quaternary system:			
Recent and Pleistocene series:			
Drift-----	41	41	
Pennsylvanian system:			
Middle series:			
Shale-----	54	95	
Sandstone-----	25	120	
Shale, sandy-----	30	150	
Sandstone-----	26	176	
Shale, gray-----	3	179	
Shale, sandy-----	2	181	
Limestone-----	3	184	
Shale-----	31	215	
Coal-----	2	217	Gas
Shale, sandy-----	54	271	
Coal-----	2	273	
Shale, sandy-----	9	282	
Sandstone-----	10	292	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/10W-9F3--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	36	328	
Coal-----	2	330	
Limestone-----	2	332	
Coal-----	3	335	
Shale, dark-----	9	344	
Shale, sandy-----	33	377	
Limestone-----	3	380	
Coal-----	2	382	T. D. 847 ft.

## Well 7/10W-10B1

Type of record: Driller's log.

Altitude: About 505 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	19	19	
Pennsylvanian system:			
Middle (?) series:			
Sandstone-----	8	27	W. B.
Shale, sandy-----	7	34	
Shale, soft, dark-----	9	43	
Coal-----	3	46	
Fire clay-----	4	50	
Limestone, hard-----	4	54	
Shale, sandy-----	11	65	
Shale, dark-----	15	80	
Limestone, hard-----	2	82	
Shale, light-----	4	86	
Shale, sandy-----	11	97	
Shale, light-----	8	105	
Sandstone-----	22	127	W. B.
Coal-----	3	130	
Limestone-----	5	135	
Sandstone-----	65	200	W. B.
Shale, light-----	3	203	

## Well 7/10W-10C1

Type of record: Driller's log.

Altitude: About 497 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface-----	30	30	
Pennsylvanian system:			
Middle (?) series:			
Shale, light-----	5	35	
Shale, dark-----	20	55	
Shale, sandy-----	23	78	
Limestone, brown-----	4	82	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-10C1--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, sandy-----	68	150	
Sandstone-----	49	199	
Shale, light-----	14	213	
Limestone, shell-----	6	219	
Red rock-----	9	228	
Limestone, shell-----	2	230	
Shale-----	2	232	
Sandstone-----	53	285	
Shale, dark-----	45	330	
Shale, sandy-----	24	354	
Coal-----	2	356	
Sandstone, broken-----	3	359	
Limestone, brown-----	3	362	
Coal-----	2	364	
Shale, dark-----	8	372	T. D. 857 ft.

## Well 7/10W-10D1

Type of record: Driller's log.                          Altitude: About 480 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface-----	18	18	
Hardpan and gravel-----	22	40	
Pennsylvanian system:			
Middle series:			
Shale, light-----	8	48	
Shale, dark-----	12	60	
Limestone, hard-----	2	62	W. B.
Shale, light-----	5	67	
Shale, sandy-----	26	93	
Sandstone-----	18	111	W. B.
Coal-----	2	113	
Limestone, hard-----	4	117	
Sandstone-----	66	183	W. B.
Shale, light-----	6	189	

## Well 7/10W-11D1

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

Quaternary system:			
Recent and Pleistocene series:			
Drift-----	40	40	
Pennsylvanian system:			
Middle (?) series:			
Shale, sandy-----	20	60	
Limestone, brown-----	2	62	
Shale, gray-----	40	102	
Coal-----	1	103	
Shale-----	8	111	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-11D1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Limestone, gray-----	2	113	
Shale-----	12	125	
Sandstone-----	61	186	
Shale-----	5	191	
Limestone-----	1	192	
Shale-----	2	194	
Limestone, hard, brown-----	4	198	
Red rock-----	8	206	
Shale, muddy-----	25	231	
Sandstone, hard-----	43	274	
Shale, dark-----	21	295	
Coal-----	3	298	
Shale, gray-----	7	305	
Shale, sandy-----	15	320	
Shale, dark-----	2	322	
Coal-----	3	325	
Limestone-----	3	328	
Shale, gray-----	10	338	
Coal-----	3	341	
Shale, gray-----	11	352	
Limestone, sandy, gray-----	5	357	
Shale, sandy-----	11	368	
Coal-----	2	370	
Shale, sandy, dark-----	10	380	
Limestone, hard, brown-----	5	385	
Coal-----	2	387	T. D. 1,332 ft.

Well 7/10W-11M1

Type of record: Driller's log.

Altitude: About 513 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	20	20	
Pennsylvanian system:			
Middle (?) series:			
Shale-----	54	74	
Limestone-----	1	75	
Shale, dark-----	63	138	
Sandstone-----	10	148	
Shale, sandy-----	12	160	
Sandstone-----	20	180	
Shale-----	8	188	
Limestone, broken-----	4	192	
Shale, gray-----	13	205	
Limestone-----	10	215	
Shale, red-----	1	216	
Shale, gray-----	4	220	
Limestone-----	6	226	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-11M1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale-----	14	240	
Coal-----	2	242	Gas
Shale, gray-----	58	300	
Coal-----	2	302	
Shale, gray-----	16	318	
Limestone, broken-----	7	325	
Shale, gray-----	70	395	
Limestone-----	6	401	
Coal-----	2	403	T. D. 882 ft.

Well 7/10W-12Q1

Type of record: Driller's log.

Altitude: About 535 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	18	18	
Sand and gravel-----	6	24	
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	36	60	
Limestone-----	3	63	
Shale-----	6	69	
Limestone-----	5	74	
Shale-----	16	90	
Sandstone-----	53	143	W. B.
Shale, gray-----	8	151	
Limestone-----	5	156	
Shale, gray-----	3	159	
Red rock-----	2	161	
Shale, gray-----	34	195	
Sandstone-----	10	205	
Shale, gray-----	46	251	
Coal-----	2	253	
Shale, dark-gray-----	37	290	
Coal-----	2	292	Gas
Shale, dark-----	49	341	
Coal-----	2	343	Gas
Shale, gray-----	12	355	
Sandstone-----	10	365	W. B.; T. D. 655 ft.

Well 7/10W-13N1

Type of record: Driller's log.

Altitude: About 510 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	20	20	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-13N1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, dark-----	8	28	
Shale, sandy-----	25	53	
Shale, dark-----	5	58	
Sandstone, dark-----	8	66	W. B.
Slate, black, and coal-----	4	70	
Sandstone, dark-----	6	76	
Shale, dark-----	2	78	
Sandstone, light-----	13	91	W. B.
Shale, dark-----	7	98	

Well 7/10W-13Q1

Type of record: Driller's log.

Altitude: About 505 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, red-----	12	12	
Sand-----	3	15	W. B.
Hardpan-----	23	38	
Pennsylvanian system:			
Middle series:			
Shale-----	32	70	
Slate, gray-----	7	77	
Limestone-----	2	79	
Slate, black-----	9	88	
Shale, light-----	7	95	
Limestone, sandy-----	17	112	
Sandstone-----	38	150	W. B.
Sandstone, dark-----	5	155	
Limestone, broken-----	5	160	

Well 7/10W-15D1

Type of record: Driller's log.

Altitude: About 485 feet.

Quaternary system:			
Recent and Pleistocene series:			
Drift-----	31	31	
Pennsylvanian system:			
Middle (?) series:			
Coal-----	3	34	
Shale-----	97	131	
Shale, sandy-----	14	145	
Sandstone-----	45	190	W. B.
Shale-----	16	206	
Limestone, brown-----	1	207	
Shale, gray-----	3	210	
Limestone, hard-----	5	215	
Shale-----	55	270	
Sandstone-----	10	280	
Shale-----	19	299	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-15D1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Coal-----	3	302	
Shale-----	5	307	
Sandstone-----	20	327	
Shale-----	21	349	
Coal-----	3	351	W. B., gas.
Shale-----	14	365	
Sandstone-----	10	375	
Shale, sandy-----	30	405	
Limestone, hard, brown-----	5	410	
Coal-----	3	413	T. D. 860 ft.

Well 7/10W-15G1

Type of record: Driller's log.

Altitude: About 490 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	13	13	
Hardpan-----	17	30	
Shale, gray-----	12	42	Clay (?)
Hardpan-----	11	53	
Pennsylvanian system:			
Middle (?) series:			
Shale, dark-----	22	75	
Limestone-----	3	78	
Shale, sandy-----	39	117	
Slate, dark-----	7	124	
Fire clay-----	2	126	
Shale, sandy-----	34	160	
Sandstone-----	24	184	W. B.
Limestone, hard-----	2	186	
Shale, dark-----	7	193	
Limestone, hard-----	3	196	
Shale, light-----	11	207	

Well 7/10W-15R1

Type of record: Driller's log.

Altitude: About 485 feet.

Quaternary system:			
Recent and Pleistocene series:			
Mud, blue, and gravel-----	52	52	
Pennsylvanian system:			
Middle (?) series:			
Shale, white-----	23	75	
Shale, black-----	45	120	W. B.
Sandstone, gray-----	45	165	
Shale, white-----	4	169	
Limestone, white-----	5	174	
Shale, white-----	8	182	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-15R1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Limestone, white-----	8	190	
Mud, red-----	5	195	
Shale, gray-----	5	200	
Shale, sandy, gray-----	10	210	
Limestone, gray-----	5	215	
Sandstone, gray-----	30	245	
Shale, gray-----	25	270	
Coal-----	2	272	
Shale, gray-----	49	321	
Coal-----	3	324	
Shale, gray-----	12	336	
Sandstone, gray-----	15	351	
Shale, gray-----	6	357	
Coal-----	4	361	W. B., gas.
Sandstone, gray-----	9	370	
Limestone, hard, brown-----	4	374	
Coal-----	5	379	Gas; T. D. 855 ft.

Well 7/10W-16D2

Type of record: Driller's log.

Altitude: About 460 feet.

Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	16	16	
Fill, soft, and sand-----	20	36	
Hardpan-----	28	64	
Gumbo and gravel-----	6	70	
Pennsylvanian system:			
Middle (?) series:			
Limestone, shell-----	1	71	
Shale, sandy-----	4	75	
Sandstone-----	25	100	
Shale, sandy, dark-----	5	105	

Well 7/10W-16E1

Type of record: Driller's log.

Altitude: About 460 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	30	30	
Hardpan-----	25	55	
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	17	72	
Slate, black-----	8	80	
Shale, sandy-----	15	95	
Sandstone, white-----	24	119	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-17G1

Type of record: Driller's log.

Altitude: About 480 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Hardpan-----	10	25	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	10	35	
Shale, dark-----	10	45	
Shale, gray-----	3	48	
Shale, sandy, broken-----	12	60	W. B.
Shale, dark-----	15	75	
Coal-----	1	76	
Shale, gray-----	7	83	
Shale, sandy-----	10	93	

Well 7/10W-17N1

Type of record: Driller's log.

Altitude: About 495 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	20	20	
Muck, blue-----	25	45	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	13	58	
Coal-----	3	61	
Fire clay-----	3	64	
Sandstone-----	19	83	W. B.
Shale, dark, and coal-----	5	88	

Well 7/10W-18C2

Type of record: Driller's log.

Altitude: About 530 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	15	15	
Muck and sand-----	25	40	
Mud, dark-----	7	47	
Pennsylvanian system:			
Middle series:			
Limestone, hard-----	1	48	
Slate, black-----	4	52	
Coal-----	2	54	W. B.
Fire clay-----	4	58	
Shale, light-----	2	60	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-18C3

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

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, red-----	20	20	
Sand and boulders-----	19	39	
Mud, blue-----	18	57	
Pennsylvanian system:			
Middle series:			
Coal-----	3	60	
Fire clay-----	10	70	
Sandstone-----	5	75	W. B.

Well 7/10W-18C4

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

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Mud, yellow-----	20	20	
Muck, blue-----	10	30	
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	15	45	
Sandstone-----	15	60	W. B.
Shale, dark-----	3	63	
Shale, sandy-----	7	70	

Well 7/10W-18C5

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

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, red-----	20	20	
Sand and soft gumbo-----	19	39	
Pennsylvanian system:			
Middle series:			
Limestone, hard-----	3	42	
Sandstone-----	18	60	W. B.
Shale, dark-----	12	72	
Slate, dark-----	20	92	
Coal-----	3	95	
Fire clay-----	5	100	
Sandstone and limestone-----	15	115	W. B.
Shale, dark-----	3	118	

Well 7/10W-18C6

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

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	10	10	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-18C6--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand-----	10	20	
Gumbo-----	14	34	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	6	40	
Slate, black, some coal-----	7	47	W. B.
Fire clay-----	2	49	
Sandstone-----	4	53	

Well 7/10W-18C7

Type of record: Driller's log.

Altitude: About 550 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, gravel and sand-----	30	30	
Pennsylvanian system:			
Upper series:			
Sandstone-----	18	48	
Middle series:			
Shale-----	13	61	
Limestone-----	3	64	
Shale, dark-----	7	71	
Coal-----	1	72	
Shale, dark-----	18	90	
Limestone, broken-----	27	117	W. B.; crevice at 97 ft.
Slate, black-----	2	119	
Coal-----	1	120	
Fire clay-----	3	123	
Limestone-----	3	126	
Shale, light-----	12	138	
Shale, dark-----	10	148	
Coal-----	3	151	
Fire clay-----	5	156	
Limestone, sandy-----	6	162	
Shale, sandy-----	18	180	
Limestone, broken-----	5	185	
Sandstone-----	25	210	
Shale, sandy, dark-----	4	214	

Well 7/10W-18D1

Type of record: Driller's log.

Altitude: About 560 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	20	20	
Hardpan, sandy, soft-----	18	38	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/10W-18D1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Upper series:			
Sandstone-----	23	61	W. B.
Middle series:			
Limestone-----	11	72	W. B.
Shale, light-----	11	83	
Slate, dark-----	4	87	

## Well 7/10W-18D2

Type of record: Sample study  
(examined by C. E. Wier)

Altitude: About 438 feet.

Quaternary system:			
Recent series:			
Alluvium, sandy, brown-----	11.0	11.0	
Alluvium, brown, sandstone fragment-----	10.3	21.3	
Pennsylvanian system:			
Middle series:			
Shale, clayey, soft, light-gray- blue-----	12.8	34.1	Core missing 0-34 ft. Core loss is 1.2 ft. from 34.1- 40.6 ft.
Shale, fissile, slightly silty and micaceous, black to dark- gray; contains clay filled joints 1/16-inch wide; 13 bands of sideritic siltstone from 1/4 to 1-inch thick scattered throughout the shale; a calcar- eous sideritic band, 4 ft. above base of shale contains a brachiopod-----	7.7	41.8	
Shale, micaceous, very silty in upper 3 inches, black to dark- gray; numerous brown and black wood imprints; several vitrain streaks in the basal 1-inch; a slickenside joint at 45° near the middle-----	.7	42.5	
Pyrite, silty; occurs in a lense-	.04	42.54	
Shale, silty, dark-gray; carbo- naceous plant imprints-----	.06	42.6	
Coal, banded, bright, black; con- tains cleats filled with calcite 1 mm thick; a few thin bands of brown possible waxy material about 1 mm thick; 3 thin shale streaks in basal 0.5 ft.-----	2.7	45.3	
Shale, light-brown-----	.05	45.35	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-18D2--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Coal, banded, bright, black-----	0.85	46.2	
Clay, soft, medium to dark-gray--	1.7	47.9	
Clay, soft, pale greenish-gray, small fragments of brownish- gray, secondary (?) limestone up to 1-inch in diameter-----	2.2	50.1	Core loss of 1.1 ft. from 46.2-50.1 ft.
Shale, pale-green to gray, ir- regularly laminated with silt; calcareous clay galls-----	1.1	51.2	
Sandstone, fine-grained, medium- gray; slightly cross-bedded and irregularly laminated; slightly calcareous in local areas; in- terbedded with dark-gray to green shale-----	6.8	58.0	
Clay, silty, medium-gray-----	.3	58.3	
Shale, silty, micaceous, dark-gray to green with local brown mottling, interbedded with light-gray, fine-grained, mi- caceous, locally calcareous, irregularly-bedded and laminated sandstone; many sandstone laminae less than 0.01 ft. thick; percentage of shale gradually increases downward---	7.7	66.0	
Shale, dark-gray; two thin bands of white, calcareous shells----	.05	66.05	
Shale, thin-bedded, dark-gray; light-gray, paper-thin streaks and small ferruginous nodules less than 0.02 ft. in diameter-	14.35	80.4	
Shale, calcareous, dark-gray; small brown (sideritic?) lenses and abundant small shell frag- ments; small crinoid columnals, and possibly a few fusilinids--	.7	81.1	
Limestone, almost coquina, light- gray; contains brachiopods and crinoid stems; irregular streaks of black, carbonaceous lime- stone-----	1.5	82.6	
Limestone, calcareous, carbona- ceous, black; scattered large brachiopods-----	.25	82.85	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/10W-18D2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Underclay, soft, light-gray; locally pale-green-----	1.15	84.0	"No coal but sharp break in lith- ology".
Sandstone, fine-grained, light- gray; interbedded and inter- laminated with dark-gray, silty, shale-----	6.4	90.4	
Sandstone, fine-grained, silty, micaceous, light-gray-----	1.0	91.4	
Sandstone, fine-grained, silty, interlaminated with dark-gray, silty shale; micaceous, light- gray; locally sandstone be- comes medium to dark-gray siltstone-----	2.9	94.3	
Sandstone, fine-grained, micaceous, light-gray-----	.7	95.0	
Siltstone, dark-gray, interlam- inated with light-gray, medium- grained sandstone, and dark-gray shale; sandstone streaks and lenses slightly calcareous in lower half and shale and silt- stone become almost black-----	24.7	119.7	
Limestone, argillaceous, carbo- naceous, black; abundand brach- iopods; grades downward into black shale-----	1.5	121.2	
Shale, fissile, black; small py- rite nodule in base-----	1.8	123.0	
Coal, banded, black; films of calcite fill vertical cleats---	.8	123.8	
Clay, dark-gray; many carbo- naceous plant inprints-----	.6	124.4	
Clay, calcareous, dark-gray to pale-green; many carbonaceous plant imprints; many black and tan limestone fragments 0.01 to 0.05 ft. in diameter---	5.3	129.7	
Clay, very silty, light-gray and pale-green mottled; sideritic nodules and secondary vertical joint filling-----	1.7	131.4	
Shale, silty, blue-gray; irregular nodules of black and tan impure limestone and brown siderite---	3.65	135.05	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/10W-18D2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Limestone, light-brown; shell fragments-----	0.05	135.1	
Shale, silty, light and dark-gray interlaminated; local nodules and lenses of siderite; light- gray lamination becomes more silty downward-----	11.7	146.8	
Siderite, brown; effervesces slightly when powdered-----	.15	146.95	
Shale, black; interlaminated with light-gray siltstone-----	8.15	155.1	
Sandstone, fine to medium-grained, subrounded, finely-micaceous, well-cemented, medium-gray; irregular paper-thin, black shale partings containing large mica flakes and carbonized plant fragments-----	6.9	162.0	
Sandstone, medium-grained, sub- rounded to subangular, finely- micaceous, well-cemented, medium-gray; rare, black shale partings; medium-grained sand- stone grades into and alternates with 2 to 5 ft. units of fine- grained sandstone containing more abundant black shale part- ings and local siderite lenses-	50.9	212.9	
Shale, soapy, dark-gray; scattered shell fragments-----	1.1	214.0	
Limestone, argillaceous, gray to tan-----	.1	214.1	
Shale, soapy, dark-gray; small brown limestone fragments and scattered shells-----	2.3	216.4	
Limestone, finely crystalline, gray to light-brown; some clear calcite crystals in lower 0.5 ft.; some shell fragments and crinoid columnals-----	3.8	220.2	
Shale, calcareous, black; crinoid columnals-----	.4	220.6	
Shale, black, locally green, and more abundant red lenses; many slickenside surfaces-----	5.9	226.5	
Shale, dark-gray to green; numerous small gray and tan limestone fragments-----	1.7	228.2	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 7/10W-18D2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, silty, micaceous, dark-gray to greenish-gray; locally calcareous and locally contains small brown limestone nodules; interlaminated with gray, fine-grained sandstone; shale becomes darker, less calcareous, and less silty downward; slightly calcareous at base-----	20.9	249.1	
Coal, banded, black; calcite film in cleats; small disseminated pyrite crystals-----	1.2	250.3	
Shale, slightly silty, dark-gray; carbonized plant imprints and local thin silty laminae-----	17.8	268.1	
Shale, silty, dark-gray; carbonized plant imprints and mica; shale interlaminated with light-gray, fine-grained sandstone; grades downward into siltstone--	25.4	293.5	
Siltstone, dark-gray; local thin laminations of light-gray, fine-grained sandstone and dark-gray shale-----	16.5	310.0	
Shale, silty, slightly calcareous, medium-gray; carbonized plant imprints-----	.05	310.05	
Shale, fissile, coaly, black-----	.05	310.1	
Coal, banded, black; kaolin and calcite in vertical cleats-----	2.8	312.9	
Clay, silty, dark-gray; numerous carbonized plant imprints-----	2.1	315.0	
Clay, silty, dark-gray; numerous slickensides-----	3.0	318.0	
Siltstone, argillaceous, slightly calcareous, dull-gray-----	.9	318.9	
Siltstone, arenaceous, argillaceous, calcareous, greenish-gray; fragments of gray to tan, sublithographic limestone-----	3.7	322.6	
Siltstone, arenaceous, argillaceous, medium to dark-gray----	2.7	325.3	
Sandstone, fine-grained, silty, well-cemented, light-gray; local laminations of black shale-----	5.7	331.0	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-18D2--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Sandstone, silty, shaly, medium-gray small, tan limestone fragments-----	0.2	331.2	
Siltstone, micaceous, argillaceous, medium-gray; faintly laminated with light-gray, silty laminae; local bands of siderite; becomes less silty and darker downward-----	13.5	344.7	
Shale, silty, micaceous, laminated, dark-gray; scattered siderite--	7.9	352.6	
Shale, dark-gray to black; abundant brachiopod shells and crinoid columnals-----	.6	353.2	
Coal, banded, black; kaolin and calcite films in vertical cleats-----	1.2	354.4	
Shale, dark-gray-----	.06	354.46	
Coal, banded, black; kaolin and calcite films in vertical cleats-----	2.44	356.9	
Clay, slightly calcareous, black; plant imprints-----	.5	357.4	
Limestone, argillaceous, carbonaceous, dark-gray brachiopod shells and crinoid columnals---	1.5	358.9	
Clay, black; jet black slickensides and calcareous zones-----	.4	359.3	
Shale, fissile, black; carbonized plant remains-----	1.3	360.6	
Shale, fissile, soft, dark-gray; some carbonized material and one small calcareous concretion-----	4.3	364.9	
Shale, fissile, silty, black----	.35	365.25	
Shale, fissile, coaly, black----	.07	365.32	
Coal, shaly, black-----	.2	365.52	
Coal, banded, black-----	.35	365.87	
Coal, shaly, black-----	.13	366.0	
Shale, carbonaceous, black-----	.1	366.1	
Clay, silty, medium-gray; carbonized plant remains; calcareous near base-----	2.7	368.8	
Siltstone, calcareous, medium-gray; local concentrations of gray and black limestone fragments-----	2.1	370.9	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-18D2--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Siltstone, laminated, locally slightly calcareous, light to dark-gray; small, brown calcareous nodules from 0.01 to 0.02 ft. in diameter-----	4.7	375.6	
Shale, silty, laminated, dark-gray; abundant siderite lenses up to 0.15 ft. thick; few thin bands of fine-grained sandstone-----	19.5	395.1	
Shale, calcareous, brownish-gray; shell fragments-----	.1	395.2	
Shale, coaly, pyritiferous, dark-gray-----	.15	395.35	
Coal, banded, black-----	1.69	397.04	
Shale, dark-gray-----	.05	397.09	
Coal, banded, black-----	.41	397.5	
Shale, coaly, black-----	.3	397.8	
Siltstone, light-gray; irregular interlamination of black shale-----	2.2	400.0	
Shale, dark-gray; carbonaceous plant remains-----	2.1	402.1	
Sandstone, fine to medium-grained, calcareous, light-gray; a few thin black shale partings-----	1.4	403.5	
Shale, black; interlaminated with light-gray siltstone-----	3.5	407.0	
Shale, silty, black; scattered pyritized plant remains-----	2.4	409.4	
Shale, calcareous, dark-gray; numerous brachiopod shell fragments-----	.5	409.9	
Shale, coaly, black-----	.3	410.2	
Coal, banded, black; calcite film in cleats-----	.9	411.1	
Shale and pyrite, dark-gray-----	.05	411.15	
Coal, banded, black; calcite film in cleats-----	1.55	412.7	
Clay, silty, medium-gray; some carbonized plant remains-----	1.6	414.3	
Shale, silty, calcareous, medium-gray-----	1.8	416.1	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-18D2--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Limestone, silty, medium-gray, tan, and dark-gray mottled; some secondary calcite; dark-gray limestone extends irregularly into the underlying siltstone-----	0.6	416.7	
Siltstone, slightly calcareous, irregularly laminated, medium-gray; dark-gray limestone nodules-----	2.9	419.6	
Sandstone, fine-grained, very silty, very calcareous, light to medium-gray-----	2.0	421.6	
Shale, silty, medium to dark-gray; tan argillaceous limestone in vertical joint-----	1.6	423.2	
Siltstone, faintly laminated, micaceous, medium-gray-----	5.5	428.7	
Record missing-----	8.8	437.5	Core loss approximately 9 ft. Driller believes that no coal was present in the lost core.
Shale, silty, medium-gray-----	2.5	440.0	

Well 7/10W-21R1

Type of record: Driller's log. Altitude: About 475 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand, coarse, loose-----	35	35	
Sand, fine, putty-----	2	37	W. B. silty (?)
Mud, glacial, gray-----	6	43	
Hardpan, solid, gray-----	6	49	

Well 7/10W-23C1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	25	25	
Mud, blue-----	9	34	
Pennsylvania system:			
Middle series:			
Sandstone-----	17	51	
Shale, light-----	10	61	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 7/10W-23C1--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, dark-----	4	65	
Coal-----	2	67	
Fire clay-----	3	70	
Shale, light-----	9	79	
Sandstone, dark-----	9	88	
Sandstone, white-----	26	114	W. B.
Well 7/10W-25B1			
Type of record: Driller's log.		Altitude: About 505 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Sand, red-----	46	46	
Gravel-----	14	60	W. B.
Gravel, coarse-----	3	63	W. B.
Mud, yellow-----	11	74	
Pennsylvanian system:			
Middle (?) series:			
Shale, sandy, light-----	16	90	
Shale, dark-----	10	100	
Limestone, hard-----	2	102	W. B.
Coal-----	3	105	W. B.
Limestone-----	2	107	
Limestone, sandy-----	4	111	
Shale, dark-----	21	132	
Well 7/10W-28B1			
Type of record: Driller's log.		Altitude: About 440 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Sand-----	35	35	
Sand and gravel-----	5	40	
Gravel, coarse-----	13	53	W. B.
Well 7/10W-29A1			
Type of record: Driller's log.		Altitude: About 435 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Pit-----	10	10	
Gravel, coarse, and little sand--	28	38	
Sand and large pebbles-----	5	43	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/8W-2H1

Type of record: Driller's log.

Altitude: About 547 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	10	10	
Sand and gravel with clay-----	30	40	
Pennsylvanian system:			
Middle series:			
Limestone, hard, white-----	3	43	
Limestone, gray-----	7	50	
Shale, sandy, gray-----	10	60	
Shale, dark-gray-----	10	70	
Shale, sandy, light-gray-----	3	73	
Shale, soft, gray-----	10	83	
Shale, sandy, light-gray-----	7	90	
Shale, dark-----	10	100	
Shale, gray-----	13	113	

Well 8/8W-6L1

Type of record: Driller's log.

Altitude: About 530 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Soil, clay, and sand-----	20	20	
Sand-----	10	30	
Hardpan-----	11	41	
Pennsylvanian system:			
Middle (?) series:			
Shale, sandy-----	19	60	
Shale, gray-----	34	94	
Coal-----	4	98	W. B.
Fire clay-----	4	102	
Limestone-----	1	103	

Well 8/8W-7H1

Type of record: Driller's log.

Altitude: About 510 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	
Sand-----	3	23	W. B.
Pennsylvanian system:			
Middle series:			
Coal-----	2	25	
Limestone-----	8	33	
Shale, brown-----	27	60	
Coal-----	6	66	
Shale, gray-----	4	70	
Shale, brown-----	150	220	
Limestone, brown-----	20	240	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/8W-7H1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Sandstone-----	55	295	W. B.
Shale, brown-----	5	300	
Sandstone-----	5	305	W. B.
Limestone, soft-----	10	315	
Shale, brown-----	5	320	
Sandstone-----	7	327	W. B.
Coal-----	6	333	
Soapstone-----	5	338	
Limestone, gray-----	12	350	
Shale, brown-----	22	372	
Sandstone-----	23	395	W. B.; T. D. 2,262 ft.

Well 8/8W-7H2

Type of record: Driller's log.		Altitude: About 515 feet.	
Record missing-----	28	28	
Pennsylvanian system:			
Middle series:			
Shale-----	13	41	
Coal-----	2	43	
Fire clay-----	4	47	
Sandstone, coarse-----	1	48	
Shale, sandy-----	6	54	

Well 8/8W-7L1

Type of record: Driller's log.		Altitude: About 511 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	8	8	
Gravel-----	4	12	
Hardpan-----	4	16	
Sand-----	12	28	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	19	47	
Shale, soft-----	5	52	
Shale-----	5	57	
Limestone-----	3	60	
Shale, sandy-----	10	70	
Slate-----	18	88	
Shale-----	20	108	
Slate-----	12	120	
Sandstone-----	11	131	
Limestone-----	2	133	
Sandstone-----	7	140	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/8W-7L1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Slate-----	5	145	
Shale, sandy-----	15	160	
Shale-----	17	177	

Well 8/8W-10N1

Type of record: Driller's log.

Altitude: About 578 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and gravel-----	14	14	
Hardpan-----	4	18	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	17	35	
Coal-----	5	40	
Soapstone-----	66	106	
Slate, dark-----	14	120	
Shale, light-----	10	130	
Slate, black-----	30	160	
Shale, gray slate, and coal-----	60	220	
Shale, and slate, gray-----	47	267	
Coal-----	5	272	
Sandstone-----	10	282	
Fire clay-----	10	292	
Shale, black-----	18	310	
Shale and gray sandstone-----	20	330	
Coal-----	4	334	
Slate, light-----	26	360	T. D. 2,268 ft.

Well 8/8W-12C1

Type of record: Driller's log.

Altitude: About 550 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface-----	11	11	
Sand and gravel-----	3	14	
Sandstone, yellow-----	2.5	16.5	
Shale, sandy, gray-----	22.5	39	Trace of coal at 31 ft.
Gravel and mud, gray-----	9	48	
Sand and mud-----	17	65	
Mud, green-----	15	80	
Mud, gray-----	5	85	
Pennsylvanian system:			
Middle series:			
Shale, soft, light-gray-----	5	90	
Sandstone, light-gray-----	28.5	118.5	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/8W-12C1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Coal, trace-----	--	118.5	Trace of coal at 126 ft.
Fire clay-----	2.5	121	
Shale, gray-----	7	128	
Shale, sandy, gray-----	4	132	
Sandstone, gray-----	2	134	
Shale, brownish-gray-----	3.5	137.5	
Sandstone, medium-gray-----	6.5	144	
Shale, sandy, gray-----	20	164	
Sandstone and sandy shale, gray--	4	168	
Shale, boots, gray-----	4.5	172.5	
Slate, black-----	1	173.5	
Limestone, brown-----	.5	174	
Shale, gray-----	2	176	
Slate, black-----	5	181	
Shale, gray-----	2	183	
Coal-----	1	184	
Fire clay-----	2	186	
Sandstone, light-gray-----	22	208	
Shale, gray-----	--	208	

Well 8/8W-14L1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, red-----	20	20	
Hardpan-----	10	30	
Sand and gravel-----	10	40	
Pennsylvanian system:			
Middle series:			
Sandstone-----	6	46	
Coal and shale-----	5	51	

Well 8/8W-17N1

Type of record: Driller's log. Altitude: About 480 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Sand-----	5	20	W. B.
Hardpan-----	11	31	
Sand and gravel-----	10	41	W. B.
Hardpan-----	12	53	
Gravel, fine, and sand-----	2	55	
Hardpan-----	10	65	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/8W-17N2

Type of record: Driller's log.

Altitude: About 480 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	16	16	
Sand, yellow-----	15	31	W. B.
Sand, yellow, and gravel-----	18	49	W. B.
Sand, muddy-----	4	53	
Hardpan-----	15	68	

Well 8/8W-18L1

Type of record: Driller's log.

Altitude: About 505 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	16	16	
Sand and clay-----	9	25	
Hardpan-----	5	30	
Pennsylvanian system:			
Middle series:			
Sandstone-----	20	50	
Shale, dark-----	30	80	
Coal-----	3	83	
Fire clay-----	3	86	
Shale, gray-----	2	88	
Limestone-----	4	92	
Shale; sandy-----	23	115	
Shale, dark-----	2	117	
Coal-----	4	121	

Well 8/8W-19C1

Type of record: Driller's log.

Altitude: About 490 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	
Hardpan-----	12	32	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	11	43	
Sandstone-----	17	60	
Shale, dark-----	33	93	
Coal-----	3	96	
Fire clay-----	4	100	
Shale, gray-----	13	113	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/8W-20R1

Type of record: Driller's log.

Altitude: About 525 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	25	25	
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	12	37	
Sandstone-----	23	60	
Shale-----	5	65	
Slate, dark-----	3	68	
Coal-----	5	73	
Shale, gray-----	12	85	

Well 8/8W-24M1

Type of record: Driller's log.

Altitude: About 550 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	24	24	
Shale, soft-----	26	50	Clay (?)
Sand and gravel-----	43	93	

Well 8/8W-30D1

Type of record: Driller's log.

Altitude: About 477 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	
Limestone, hard-----	4	24	Cemented gravel (?)
Sand and gravel-----	24	48	
Gravel-----	7	55	
Sand-----	30	85	W. B.
Pennsylvanian system:			
Middle series:			
Sandstone-----	5	90	
Limestone, hard-----	6	96	
Mud, shaly-----	4	100	
Mud-----	10	110	
Sandstone, shaly-----	5	115	
Sandstone-----	58	173	W. B.
Sandstone, shaly-----	52	225	
Shale and limestone-----	20	245	
Sandstone, shaly-----	5	250	
Slate, hard, black-----	12	262	
Shale, gray, and sandstone-----	11	273	
Sandstone-----	27	300	
Sandstone-----	10	310	W. B.
Shale, hard-----	10	320	
Shale and shaly sandstone-----	20	340	

Table 2.--Selected well logs; Sullivan County, Indiana--Continued

Well 8/8W-30D1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Sandstone and shale-----	13	353	
Sandstone, shaly-----	22	375	
Sandstone-----	25	400	
Sandstone, shaly-----	5	405	
Sandstone-----	30	435	
Shale and sandstone-----	5	440	
Sandstone, shaly-----	10	450	

Well 8/8W-31H1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	
Shale, green-----	20	40	Clay (?)
Pennsylvanian system:			
Middle series:			
Shale, gray-----	19	59	
Coal-----	1	60	
Fire clay-----	5	65	

Well 8/8W-31K1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Hardpan-----	12	30	
Pennsylvanian system:			
Middle series:			
Sandstone-----	10	40	

Well 8/8W-33N1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	18	18	
Hardpan-----	6	24	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	8	32	
Sandstone-----	38	70	W. B.
Slate, dark-----	2	72	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/8W-34C1

Type of record: Driller's log.

Altitude: About 535 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	14	14	
Pennsylvanian system:			
Middle series:			
Sandstone-----	14	28	
Shale, dark-----	15	43	
Shale, gray-----	4	47	
Coal-----	3	50	
Fire clay-----	7	57	
Shale, gray-----	6	63	
Sandstone, white-----	14	77	W. B.
Shale, dark-----	3	80	

Well 8/8W-34J1

Type of record: Driller's log.

Altitude: About 575 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	12	12	
Clay-----	10	22	
Pennsylvanian system:			
Middle series:			
Sandstone-----	5	27	
Shale, sandy-----	23	50	
Shale and slate-----	10	60	
Coal-----	3	63	
Fire clay-----	7	70	
Shale, sandy-----	5	75	
Sandstone-----	24	99	W. B.

Well 8/8W-34P1

Type of record: Driller's log.

Altitude: About 575 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	15	15	
Pennsylvanian system:			
Middle series:			
Sandstone-----	25	40	W. B.
Shale, dark-----	20	60	

Well 8/8W-34R1

Type of record: Driller's log.

Altitude: About 575 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	8	8	
Hardpan-----	14	22	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/8W-36H1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Limestone, hard-----	4	56	
Shale, dark-----	3	59	
Coal-----	5	64	
Mud, dark-----	4	68	
Mud, white-----	2	70	
Sandstone-----	3	73	
Mud, white-----	9	82	
Shale, gray-----	18	100	
Shale, sandy-----	5	105	
Shale, gray-----	10	115	
Limestone, sandy-----	2	117	
Shale, gray-----	8	125	
Rock and coal-----	1	126	
Sandstone-----	1	127	W. B.
Coal-----	2	129	
Fire clay-----	3	132	
Sandstone-----	6	138	
Shale, white-----	9	147	
Shale, dark-----	13	160	
Coal-----	3	163	
Fire clay-----	4	167	
Shale, dark-----	9	176	
Coal-----	5	181	
Fire clay-----	3	184	
Shale, dark-----	16	200	
Slate, dark-----	2	202	
Coal-----	5	207	
Shale, sandy-----	13	220	
Sandstone-----	6	226	W. B.
Sandstone-----	3	229	
Coal-----	6	235	
Shale, dark-----	10	245	
Sandstone, light-----	12	257	
Lower (?) series:			
Shale, light-----	6	263	
Limestone-----	2	265	
Coal-----	3	268	
Clay-----	1	269	
Sandstone-----	12	281	
Slate, gray-----	3	284	
Sandstone-----	76	360	W. B.
Sandstone-----	32	392	
Coal-----	3	395	
Sandstone, light-----	56	451	
Sandstone, hard-----	14	465	
Shale, light-----	10	475	
Sandstone, light-----	1	476	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/8W-36H1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Lower (?) series:			
Sandstone, brown-----	13	489	
Shale, dark-----	5	494	

Well 8/8W-36N1

Type of record: Driller's log.		Altitude: About 550 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	35	35	
Pennsylvanian system:			
Middle series:			
Sandstone-----	7	42	W. B.
Shale, gray-----	13	55	
Slate, dark-----	10	65	
Coal-----	5	70	
Slate, dark-----	10	80	
Shale, gray-----	5	85	

Well 8/9W-1R1

Type of record: Driller's log.		Altitude: About 520 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Surface and yellow clay-----	20	20	
Hardpan, brown-----	23	43	
Pennsylvanian system:			
Middle series:			
Rock, brown-----	1	44	
Shale, gray-----	30	74	
Coal-----	4	78	W. B.
Shale, sandy, light-----	17	95	
Limestone, gray-----	5	100	
Sandstone, white-----	20	120	W. B.

Well 8/9W-4H1

Type of record: Driller's log.		Altitude: About 510 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	7	7	
Sand-----	8	15	
Hardpan-----	8	23	
Gravel and boulders-----	7	30	
Gravel-----	1	31	
Pennsylvanian system:			
Middle series:			
Shale, clayey, soft-----	10	41	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/9W-4H1--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, limy-----	1	42	
Sandstone-----	8.5	50.5	
Shale, sandy-----	17	67.5	
Coal-----	.5	68	
Blackjack-----	1	69	
Shale, sandy-----	56	125	
Slate, sandy-----	3	128	
Coal-----	4	132	
Shale, soft, soapy-----	2.5	134.5	
Shale, limy-----	7.5	142	
Sandstone sprinkled with lime- stone-----	9.5	151.5	
Shale, sandy-----	8.5	160	
Slate and coal-----	.5	160.5	
Slate-----	7.5	168	
Coal-----	6	174	
Slate-----	5	179	
Limestone-----	1	180	
Shale, blue with brown bands-----	15	195	
Shale, dark-----	3	198	
Coal-----	1	199	
Shale, soft, gray-----	2	201	
Shale, limy-----	11	212	
Shale, soft-----	2	214	
Shale, sandy-----	9	223	
Slate-----	2.5	225.5	
Limestone-----	3.5	229	
Slate-----	2	231	
Coal-----	2.5	233.5	
Sandstone-----	9.5	243	
Shale, sandy-----	32	275	
Sandstone-----	11	286	
Shale, sandy-----	14	300	
Shale, dark with hard bands-----	19	319	

## Well 8/9W-4M1

Type of record: Driller's log.

Altitude: About 535 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface-----	8	8	
Sand-----	7	15	
Hardpan-----	4	19	
Gravel-----	3	22	
Pennsylvanian system:			
Middle (?) series:			
Sandstone-----	45	67	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/9W-4M1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, blue-----	8	75	
Coal-----	1	76	
Shale, gray-----	14.5	90.5	
Limestone-----	1.5	92	
Shale, soft, blue-----	1	93	
Limestone-----	2	95	
Shale, soft, gray-----	5.5	100.5	
Sandstone and limestone, mixed---	10	110.5	
Shale, sandy-----	9	119.5	
Shale, dark-----	3	122.5	
Coal-----	1	123.5	
Shale, sandy-----	53.5	177	
Shale, dark-----	12.5	189.5	
Coal-----	3.5	193	
Sandstone-----	1	194	
Fire clay-----	1	195	
Blackjack and coal, mixed-----	1	196	
Shale, clayey-----	4	200	
Shale, limy-----	9	209	
Sandstone-----	19	228	
Shale, blue-----	2	230	
Slate-----	6.5	236.5	
Coal-----	6	242.5	
Blackjack-----	1	243.5	
Slate-----	4	247.5	
Shale, limy-----	1	248.5	
Shale, gray-----	15	263.5	
Coal-----	1	264.5	
Shale, gray-----	8.5	273	
Shale, blue-----	9	282	
Shale, dark-----	2	284	
Coal-----	2	286	
Shale, dark-----	3	289	
Shale, sandy-----	6	295	
Slate-----	4	299	
Limestone-----	2	301	
Slate-----	14	315	
Coal-----	5.5	320.5	
Fire clay-----	3.5	324	

## Well 8/9W-5B1

Type of record: Driller's log.

Altitude: About 540 feet.

Quaternary system:			
Recent and Pleistocene series:			
Record missing-----	13	13	
Hardpan-----	5	18	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/9W-5B1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, sandy, gray-----	12	30	W. B.
Shale, hard, light-----	5	35	
Sandstone-----	24	60	
Shale, sandy-----	10	70	
Shale, dark-----	10	80	

## Well 8/9W-5H1

Type of record: Driller's log.		Altitude: About 540 feet.		
Record missing-----	28	28	W. B.	
Pennsylvanian system:				
Middle series:				
Shale, light-----	5	33		
Sandstone-----	18	51		
Shale, sandy-----	--	51		

## Well 8/9W-6C1

Type of record: Driller's log.		Altitude: About 500 feet.		
Quaternary system:				
Recent and Pleistocene series:				
Clay-----	12	12	W. B.	
Hardpan-----	18	30		
Pennsylvanian system:				
Middle series:				
Shale-----	5	35		
Limestone-----	2	37		
Shale-----	3	40		
Limestone-----	--	40		

## Well 8/9W-6C2

Type of record: Driller's log.		Altitude: About 507 feet.		
Quaternary system:				
Recent and Pleistocene series:				
Clay-----	12	12	W. B.	
Sand and gravel-----	20	32		
Pennsylvanian system:				
Middle series:				
Shale-----	1	33		
Shale, gray-----	4	37		
Shale, muddy, gray-----	19	56		
Limestone-----	2	58		
Shale-----	7	65		
Red rock-----	3	68		
Shale, gray-----	82	150		
Shale-----	8	158		
Coal-----	2	160		

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/9W-6C2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale-----	45	205	
Shale, gray-----	13	218	
Limestone, hard-----	6	224	
Shale, gray-----	19	243	
Coal-----	2	245	
Shale-----	5	250	
Shale, gray-----	10	260	
Shale-----	30	290	
Shale, brown-----	37	327	
Shale-----	13	340	
Sandstone-----	47	387	W. B.
Sandstone-----	30	417	

Well 8/9W-6H1

Type of record: Driller's log.

Altitude: About 510 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface-----	1	1	
Drift-----	14	15	
Sand, yellow-----	5	20	
Fire clay (?)-----	22	42	
Pennsylvanian system:			
Middle series:			
Slate, blue-----	25	67	
Coal-----	2	69	
Limestone-----	2	71	
Slate, gray-----	16	87	
Red rock-----	8	95	
Sandstone-----	10	105	
Slate, gray-----	20	125	
Shale, light-----	45	170	
Limestone-----	2	172	
Slate, blue-----	4	176	
Coal-----	2	178	
Shale, gray-----	42	220	
Shale, dark-----	6	226	
Coal-----	5	231	
Slate, blue-----	10	241	
Slate, dark-----	24	265	
Slate, blue-----	5	270	
Limestone, gray-----	15	285	
Coal-----	5	290	
Limestone-----	5	295	
Shale, blue-----	5	300	
Coal-----	5	305	
Shale, gray-----	10	315	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/9W-6H1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Limestone, shell-----	2	317	
Shale, gray-----	28	345	
Limestone, shell-----	3	348	
Coal-----	5	353	
Limestone-----	2	355	
Slate, blue-----	8	363	
Slate, white-----	5	368	
Sandstone, white-----	32	400	T. D. 2,429 ft.

## Well 8/9W-7H1

Type of record: Driller's log.		Altitude: About 510 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	10	10	
Hardpan, shaly, blue-----	15	25	
Sand-----	3	28	
Hardpan-----	6	34	
Pennsylvanian system:			
Middle series:			
Shale, light-----	13	47	
Limestone-----	1	48	
Sandstone-----	42	90	W. B.

## Well 8/9W-7K1

Type of record: Driller's log.		Altitude: About 522 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	18	18	
Gravel-----	5	23	
Mud, black-----	12	35	
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	3	38	
Limestone-----	2	40	
Shale, sandy-----	10	50	
Sandstone-----	40	90	
Shale, dark-----	5	95	
Shale, muddy, gray-----	20	115	
Limestone-----	4	119	
Shale, gray-----	3	122	
Red rock-----	3	125	
Sandstone-----	10	135	
Shale-----	8	143	
Shale, dark-----	20	163	
Sandstone-----	13	176	Show of gas.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/9W-7K1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale-----	39	215	
Coal-----	2	217	
Shale-----	35	252	
Limestone-----	1	253	
Coal-----	2	255	
Shale, black-----	5	260	
Shale-----	34	294	
Limestone-----	1	295	
Coal-----	2	297	
Shale, sandy-----	96	393	
Slate, black, and coal-----	5	398	
Sandstone-----	10	408	T. D. 832 ft.

Well 8/9W-8N1

Type of record: Driller's log.

Altitude: About 520 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Pennsylvanian system:			
Middle series:			
Shale-----	15	33	
Limestone-----	2	35	
Slate-----	5	40	
Coal-----	1	41	
Shale-----	1	42	
Limestone-----	2	44	
Shale-----	10	54	
Sandstone-----	3	57	
Shale-----	2	59	
Sandstone-----	21	80	W. B.
Shale-----	2	82	

Well 8/9W-8R1

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	16	16	
Hardpan-----	19	35	
Mud and gravel-----	7	42	
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	23	65	
Sandstone-----	33	98	W. B.
Coal-----	2	100	
Fire caly-----	3	103	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/9W-8R1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, light-----	9	112	
Limestone, hard-----	2	114	
Shale, light-----	3	117	
Limestone, hard-----	6	123	
Shale, light-----	3	126	
Red rock-----	2	128	
Shale, dark-----	12	140	
Limestone, hard-----	2	142	
Shale, dark-----	10	152	
Coal-----	2	154	
Fire clay-----	3	157	
Coal-----	3	160	
Fire clay-----	2	162	
Shale, sandy-----	13	175	
Sandstone, light-----	25	200	W. B.
Shale, dark-----	30	230	
Coal-----	2	232	
Shale, light-----	4	236	
Limestone, hard-----	4	240	
Shale, sandy-----	20	260	
Shale, dark-----	9	269	
Coal-----	6	275	

Well 8/9W-10D1

Type of record: Driller's log.

Altitude: 500 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	17	17	
Hardpan-----	7	24	
Sand and gravel-----	21	45	W. B.
Hardpan-----	10	55	
Sand and gravel-----	7	62	W. B.
Pennsylvanian system:			
Middle series:			
Sandstone, white-----	18	80	W. B.
Sandstone, dark-----	14	94	
Shale, dark-----	16	110	

Well 8/9W-10D2

Type of record: Driller's log.

Altitude: About 500 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	17	17	
Hardpan-----	7	24	
Sand and gravel-----	21	45	W. B.



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/9W-10D2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Hardpan-----	7	52	
Sand and gravel-----	5	57	W. B.
Pennsylvanian system:			
Middle series:			
Sandstone-----	36	93	W. B.
Shale, dark-----	17	110	

Well 8/9W-10D3

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

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	17	17	
Hardpan and gravel-----	10	27	
Shale, soft-----	13	40	Clay (?)
Hardpan-----	13	53	
Pennsylvanian system:			
Middle series:			
Sandstone-----	40	93	W. B.
Shale, dark-----	17	110	

Well 8/9W-10D4

Type of record: Driller's log. Altitude: About 495 feet.

Quaternary system:			
Recent and Pleistocene series:			
Top soil-----	4	4	
Clay, gritty, gray-----	9	13	
Gravel, coarse, gray-----	3	16	W. B.
Hardpan, green-----	12	28	
Clay, gritty, yellow-----	4	32	
Sand, muddy, yellow-----	2	34	W. B.
Clay, gritty, yellow-----	6	40	
Clay, gritty, gray-----	8	48	
Gravel, dark, black-----	8	56	W. B.
Gravel and sandstone-----	3	59	W. B.

Well 8/9W-10E1

Type of record: Driller's log. Altitude: About 495 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	25	25	
Sand and gravel-----	27	52	
Gravel, coarse-----	3	55	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/9W-10E2

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

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Top soil-----	4	4	
Clay, sandy, gray-----	17	21	
Gravel coarse-----	1	22	W. B.
Clay, gritty, gray-----	38	60	
Pennsylvanian system:			
Middle series:			
Sandstone-----	1	61	

Well 8/9W-10E3

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil-----	4	4	
Clay, sandy-----	17	21	
Clay, gritty, gray-----	34	55	
Sandstone-----	5	60	W. B.

Well 8/9W-10H1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	21	21	
Boulders-----	1	22	
Hardpan-----	4	26	
Boulder, hard-----	2	28	
Hardpan-----	2	30	
Pennsylvanian system:			
Middle series:			
Sandstone-----	25	55	W. B.
Shale, dark-----	21	76	
Limestone, hard-----	2	78	W. B.
Shale, gray-----	2	80	

Well 8/9W-14G1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	12	12	
Hardpan-----	8	20	
Pennsylvanian system:			
Middle series:			
Shale, light-----	14	34	
Limestone, hard-----	1	35	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/9W-14G1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, light-----	3	38	
Limestone, hard-----	3	41	
Red rock-----	7	48	
Shale, gray-----	2	50	
Limestone, hard-----	6	56	
Shale, sandy, gray-----	10	66	
Limestone, hard-----	2	68	
Shale, dark-----	10	78	
Sandstone, light-----	62	140	W. B.
Slate, gray-----	3	143	
Coal-----	5	148	
Fire clay-----	4	152	
Limestone, sandy-----	12	164	
Sandstone-----	11	175	W. B.
Slate, black-----	9	184	
Coal-----	6	190	Gas

Well 8/9W-16A1

Type of record: Driller's log.

Altitude: About 505 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	10	10	
Hardpan-----	18	28	
Shale, pink-----	1	29	
Boulders-----	4	33	
Pennsylvanian system:			
Middle series:			
Red rock-----	7	40	
Shale, dark-----	8	48	
Limestone-----	1	49	
Shale-----	11	60	
Slate, gray-----	12	72	W. B.
Sandstone-----	23	95	W. B.
Slate, dark-----	5	100	
Limestone, sandy-----	18	118	
Slate, dark-----	17	135	
Coal-----	6	141	

Well 8/9W-16A2

Type of record: Driller's log.

Altitude: About 505 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	16	16	
Hardpan-----	36	52	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/9W-20G1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Sandstone, dark-----	7	92	
Sandstone, light-----	46	138	
Limestone, brown-----	1	139	
Shale, white-----	3	142	
Limestone, gray, and light shale-----	7	149	
Limestone, hard-----	6	155	
Red rock-----	9	164	
Shale, sandy-----	11	175	
Slate, gray-----	20	195	
Shale, sandy-----	9	204	
Sandstone-----	40	244	W. B.

Well 8/9W-20G2

Type of record: Driller's log.

Altitude: About 540 feet.

Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	17	17	
Hardpan, yellow-----	15	32	
Hardpan, gray-----	3	35	
Hardpan, yellow-----	3	38	
Pennsylvanian system:			
Middle series:			
Shale, sandy, gray-----	7	45	
Shale, dark-----	5	50	
Slate, black-----	3	53	
Coal-----	2	55	W. B.
Fire clay, solid-----	1	56	
Shale, dark-----	9	65	
Shale, light-----	17	82	
Sandstone, dark-----	5	87	
Sandstone, light-----	15	102	
Sandstone, coarse, light-----	--	102	

Well 8/9W-20N1

Type of record: Driller's log.

Altitude: About 540 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Hardpan-----	10	28	
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	24	52	
Limestone-----	2	54	
Shale, dark-----	6	60	
Coal-----	1	61	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/9W-20N1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	9	70	
Sandstone-----	69	139	
Shale, gray-----	8	147	
Limestone-----	2	149	
Shale, gray-----	3	152	
Limestone-----	5	157	
Shale, gray-----	3	160	
Red rock-----	4	164	
Shale, limy, broken-----	19	183	
Shale, gray-----	10	193	
Sandstone-----	7	220	
Shale, sandy-----	14	234	

Well 8/9W-20Q1

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	26	26	
Gravel-----	4	30	W. B.
Shale, yellow-----	5	35	Clay (?)
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	7	42	
Shale, hard, gray-----	46	88	
Sandstone-----	5	93	
Shale, gray-----	7	100	
Limestone-----	1	101	
Shale, gray-----	2	103	
Limestone, hard-----	3	106	

Well 8/9W-22C1

Type of record: Driller's log.

Altitude: About 510 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	17	17	
Hardpan-----	23	40	
Hardpan, gravel, and sand-----	18	58	

Well 8/9W-22E1

Type of record: Driller's log.

Altitude: About 520 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and sand-----	30	30	
Hardpan and sand-----	45	75	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/9W-22E1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Shale, soft-----	3	78	Clay (?)
Sand, coarse-----	3	81	
Pennsylvanian system:			
Middle series:			
Shale, white-----	4	85	
Limestone-----	1	86	
Shale-----	4	90	
Limestone, hard-----	3	93	

Well 8/9W-23L1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	12	12	
Hardpan, yellow-----	11	23	
Hardpan, gray-----	62	85	
Pennsylvanian system:			
Middle series:			
Sandstone, soft-----	5	90	
Sandstone, friable-----	1	91	Gas
Sandstone, soft-----	11	102	W. B.
Coal-----	2	104	
Sandstone-----	4	108	W. B.
Fire clay-----	4	112	
Sandstone, white-----	18	130	W. B.
Shale, dark-----	7	137	

Well 8/9W-23M1

Type of record: Driller's log. Altitude: About 495 feet.

Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	20	20	
Hardpan-----	20	40	
Pennsylvanian system:			
Middle series:			
Shale-----	10	50	
Limestone-----	2	52	W. B.
Shale, gray-----	4	56	
Limestone-----	--	56	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/9W-23P1

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

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, red-----	15	15	
Hardpan, yellow-----	7	22	
Hardpan, gray-----	36	58	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	4	62	
Limestone, hard-----	2	64	
Shale, gray-----	11	75	
Shale, sandy-----	9	84	
Limestone, hard-----	2	86	
Shale, sandy-----	31	117	
Slate, dark-----	7	124	
Coal and fire clay-----	6	130	
Shale, gray-----	6	136	
Limestone, hard-----	5	141	
Sandstone-----	9	150	W. B.
Shale-----	2	152	

Well 8/9W-23R1

Type of record: Driller's log. Altitude: About 480 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Hardpan-----	45	60	
Shale and hardpan, soft-----	40	100	Clay (?)
Sand-----	--	100	

Well 8/9W-25N1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	16	16	
Hardpan-----	9	25	
Gravel and sand-----	7	32	W. B.
Gravel, fine-----	6	38	W. B.
Sand and gravel-----	42	80	W. B.
Pennsylvanian system:			
Middle series:			
Shale-----	30	110	
Coal-----	1	111	
Sandstone-----	11	122	W. B.



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/9W-27D1

Type of record: Driller's log.

Altitude: About 525 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand and gravel-----	55	55	
Pennsylvanian system:			
Middle series:			
Limestone-----	12	67	
Shale-----	29	96	
Sandstone and shale-----	21	117	
Coal-----	4	121	
Fire clay-----	6	127	
Limestone, hard-----	10	137	
Shale-----	13	150	
Coal-----	2	152	
Shale-----	38	190	
Coal-----	5	195	
Clay-----	9	204	
Shale-----	51	255	
Sandstone and gravel-----	6	261	Concretions (?)
Shale, sandy-----	24	285	
Shale-----	10	295	
Coal-----	5	300	Gas
Shale, brown-----	20	320	
Shale, sandy-----	40	360	
Sandstone-----	20	380	
Shale-----	14	394	
Coal-----	4	398	

## Well 8/9W-28M1

Type of record: Driller's log.

Altitude: About 505 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	15	15	
Hardpan-----	8	23	
Quicksand-----	25	48	W. B.
Pennsylvanian system:			
Middle (?) series:			
Sandstone, dark-----	18	66	
Sandstone, light-----	14	80	W. B.
Slate, dark-----	2	82	
Coal-----	2	84	
Fire clay-----	3	87	
Shale, light-----	11	98	
Limestone, hard-----	4	102	W. B.
Red rock-----	9	111	
Sandstone-----	4	115	
Limestone-----	3	118	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/9W-28M2

Type of record: Driller's log.

Altitude: About 505 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Shale, yellow-----	25	43	Clay (?)
Shale, blue-----	12	55	W. B.; clay (?)
Pennsylvanian system:			
Middle (?) series:			
Sandstone, dark-----	15	70	
Sandstone, gray-----	10	80	
Limestone-----	5	85	
Shale, dark-----	2	87	
Coal-----	1	88	
Shale-----	12	100	
Limestone-----	1	101	
Shale-----	4	105	
Limestone, hard-----	5	110	
Shale, gray-----	2	112	
Red rock-----	3	115	
Limestone, sandy-----	12	127	

## Well 8/9W-28N1

Type of record: Driller's log.

Altitude: About 505 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	15	15	
Gravel and sand-----	25	40	
Pennsylvanian system:			
Middle series:			
Shale, soft-----	15	55	
Sandstone, white-----	27	82	W. B.
Limestone, hard-----	1	83	

## Well 8/9W-28Q1

Type of record: Driller's log.

Altitude: About 485 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	13	13	
Gravel-----	2	15	
Pennsylvanian system:			
Middle series:			
Sandstone-----	28	43	W. B.
Shale, dark-----	6	49	
Coal-----	3	52	
Fire clay-----	3	55	
Shale, soft-----	5	60	
Sandstone, white-----	22	82	
Limestone, hard-----	1	83	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/9W-29K1

Type of record: Driller's log.

Altitude: About 525 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Hardpan-----	10	25	
Pennsylvanian system:			
Middle series:			
Shale, soft-----	18	43	
Limestone-----	4	47	
Coal-----	1	48	
Shale, soft, gray-----	17	65	
Shale, sandy-----	19	84	
Sandstone-----	25	109	

Well 8/9W-29Q1

Type of record: Driller's log.

Altitude: About 510 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	13	13	
Clay, sandy-----	13	26	
Quicksand-----	5	31	
Pennsylvanian system:			
Middle series:			
Slate, black-----	7	38	
Coal-----	2	40	W. B.
Fire clay-----	6	46	
Sandstone-----	5	51	W. B.
Shale, black-----	9	60	

Well 8/9W-29R1

Type of record: Driller's log.

Altitude: About 510 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	10	10	
Hardpan-----	5	15	
Sand-----	3	18	W. B.
Hardpan-----	27	45	
Pennsylvanian system:			
Middle (?) series:			
Shale, dark-----	19	64	
Sandstone-----	25	89	W. B.
Slate, black, and coal-----	8	97	
Fire clay-----	3	100	
Shale, light-----	7	107	
Limestone-----	3	110	W. B.
Shale, dark-----	2	112	
Limestone, hard-----	2	114	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/9W-30Q1

Type of record: Driller's log.

Altitude: About 530 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	16	16	
Hardpan-----	12	28	
Pennsylvanian system:			
Middle (?) series:			
Shale, light-----	3	31	
Limestone-----	4	35	
Shale, light-----	15	50	
Shale, sandy-----	13	63	
Shale, dark-----	4	67	
Limestone-----	1	68	
Slate, black-----	6	74	
Shale, gray-----	11	85	
Sandstone-----	60	145	
Shale, light-----	8	153	
Limestone-----	1	154	
Shale, gray-----	5	159	
Limestone-----	5	164	
Shale, gray, and red rock-----	9	173	

Well 8/9W-31J1

Type of record: Driller's log.

Altitude: About 510 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Hardpan-----	10	25	
Shale, green-----	20	45	Clay (?)
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	8	53	
Limestone-----	22	75	
Sandstone-----	37	112	
Shale, gray-----	3	115	
Limestone-----	1	116	
Shale, gray-----	3	119	
Limestone-----	4	123	
Red rock-----	7	130	
Limestone, sandy-----	5	135	
Shale, gray-----	55	190	
Shale, dark-----	29	219	
Coal-----	2	221	
Shale, gray-----	10	231	
Limestone-----	2	233	
Shale, sandy-----	14	247	
Shale, gray-----	13	260	
Shale, dark-----	5	265	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/9W-31J1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Coal-----	3	268	
Shale, gray-----	12	280	
Limestone, sandy-----	3	283	
Shale, gray-----	11	294	
Shale, dark-----	4	298	
Coal-----	2	300	
Limestone, sandy-----	5	305	
Shale, dark-----	15	320	
Coal-----	2	322	
Shale, gray-----	79	401	T. D. 774 ft.

Well 8/9W-31J2

Type of record: Driller's log.		Altitude: About 500 feet.	
Record missing-----	29	29	
Pennsylvanian system:			
Middle series:			
Limestone-----	3	32	
Limestone, sandy-----	18	50	W. B. 30 to 35 ft.
Sandstone-----	51	101	E. B. 86 to 90 ft.

Well 8/9W-32B1

Type of record: Driller's log.		Altitude: About 505 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Hardpan-----	10	25	
Shale, green-----	50	75	Clay (?)
Pennsylvanian system:			
Middle series:			
Shale, gray-----	18	93	
Limestone-----	1	94	
Shale-----	1	95	
Limestone-----	5	100	
Shale and red rock-----	7	107	
Shale-----	5	112	
Limestone, sandy-----	8	120	
Shale, gray-----	12	132	
Shale, dark-----	10	142	
Limestone, sandy-----	28	170	W. B.
Shale, sandy-----	20	190	
Coal-----	2	192	
Shale, gray-----	10	202	
Limestone-----	5	207	
Shale, gray-----	20	227	
Shale, dark-----	8	235	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/9W-32B1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Coal-----	2	237	Gas
Shale, gray-----	17	254	
Limestone-----	2	256	
Sandstone, broken, and shale-----	14	270	
Shale, dark-----	4	274	
Shale, gray-----	11	285	
Sandstone-----	15	300	Gas
Sandstone, broken-----	20	320	
Shale, dark-----	64	384	
Coal-----	5	389	Gas
Sandstone-----	36	425	T. D. 806 ft.

## Well 8/9W-32M1

Type of record: Driller's log.

Altitude: About 489 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Pennsylvanian system:			
Middle (?) series:			
Shale-----	6	21	
Sandstone-----	27	48	
Shale, gray-----	36	84	
Limestone-----	3	87	
Shale, gray-----	5	92	
Red rock-----	6	98	
Limestone, sandy-----	14	112	
Limestone, broken, and shale-----	46	158	
Sandstone-----	16	174	
Shale, dark-----	11	185	
Coal-----	2	187	
Shale, gray-----	3	190	
Limestone-----	3	193	
Sandstone-----	7	200	
Shale, sandy-----	13	213	
Shale, gray-----	6	219	
Shale, dark-----	10	229	
Coal-----	3	232	
Shale, dark-----	13	245	
Limestone, sandy-----	4	249	
Shale, dark-----	16	265	
Coal-----	4	269	Gas
Limestone-----	6	275	
Shale, gray-----	38	313	
Shale, sandy-----	22	335	
Shale, gray-----	37	372	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/9W-33A1

Type of record: Driller's log.

Altitude: About 500 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	15	15	
Hardpan and blue fill-----	45	60	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	8	68	
Sandstone, white-----	52	120	W. B.
Slate, dark-----	3	123	

Well 8/9W-33N1

Type of record: Driller's log.

Altitude: About 500 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	15	15	
Hardpan-----	23	38	
Pennsylvanian system:			
Middle series:			
Limestone, hard-----	2	40	
Sandstone-----	3	43	W. B.
Shale, gray-----	11	54	
Sandstone-----	11	65	W. B.

Well 8/9W-34N1

Type of record: Driller's log.

Altitude: About 485 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Hardpan-----	12	30	
Pennsylvanian system:			
Middle series:			
Shale-----	25	55	
Coal-----	1	56	
Shale, gray-----	7	63	
Limestone-----	4	67	
Shale, gray-----	13	80	
Shale, dark-----	10	90	Gas
Shale, gray-----	20	110	
Shale, sandy-----	34	144	
Shale, dark-----	22	166	
Coal-----	3	169	
Shale, gray-----	11	180	
Sandstone-----	6	186	
Shale, gray-----	9	195	
Slate-----	10	205	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/9W-34P1

Type of record: Driller's log.

Altitude: About 490 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Soil and yellow clay-----	7	7	
Clay, yellow, and sand-----	8	15	
Clay, soft, yellow, and runny sand-----	1	16	W. B.
Hardpan, soft, gray-----	8	24	
Sand, soft, gray-----	2	26	W. B.
Hardpan, solid, gray-----	29	55	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	7	62	
Shale, sandy-----	17	79	
Sandstone, soft, gray-----	3	82	W. B.
Slate, gray-----	4	86	

## Well 8/9W-36F1

Type of record: Driller's log.

Altitude: About 451 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil-----	45	45	
Pennsylvanian system:			
Middle series:			
Sandstone-----	20	65	
Sandstone, gray-----	15	80	
Shale-----	2	82	
Coal-----	3	85	
Shale, dark-----	15	100	
Shale, light-----	20	120	
Shale, sandy, light-----	20	140	
Shale, dark-----	35	175	
Shale, light-----	15	190	
Coal-----	5	195	
Shale-----	10	205	
Sandstone-----	25	230	
Slate-----	20	250	
Coal-----	5	255	
Slate, sandy-----	15	270	
Limestone, sandy-----	40	310	
Slate, dark and light-----	27	337	
Coal-----	8	345	
Slate-----	5	350	
Sandstone-----	20	370	Gas
Slate-----	10	380	
Limestone, shell-----	5	385	
Slate, gray-----	5	390	
Sandstone-----	65	455	Salt water T. D. 4,160 ft.



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/9W-36R1

Type of record: Driller's log.

Altitude: About 500 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	14	14	
Hardpan-----	4	18	
Mud and sand-----	17	35	
Pennsylvanian system:			
Middle series:			
Sandstone, dark-----	22	57	W. B.
Shale, gray-----	24	81	
Coal-----	3	84	
Fire clay-----	3	87	
Sandstone, white-----	16	103	W. B.
Shale, sandy-----	9	112	
Shale, brown-----	3	115	

Well 8/10W-1N1

Type of record: Driller's log.

Altitude: About 501 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	12	12	
Pennsylvanian system:			
Middle series:			
Shale-----	41	53	
Limestone-----	5	58	
Shale-----	4	62	
Red rock-----	3	65	
Shale, sandy-----	7	72	
Sandstone-----	10	82	
Shale, limy, broken-----	18	100	
Sandstone-----	12	112	
Shale, dark-----	40	152	
Coal-----	2	154	
Fire clay-----	2	156	
Limestone-----	1	157	
Shale, light-gray-----	24	181	
Shale, sandy, dark-----	12	193	
Coal-----	5	198	Gas
Fire clay-----	15	213	
Slate-----	3	216	
Shale, light-----	7	223	
Shale, sandy-----	17	240	
Shale, dark-----	3	243	
Slate-----	3	246	Gas
Coal-----	4	250	
Limestone, sandy-----	13	263	
Sandstone-----	32	295	
Shale, sandy-----	9	304	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-1N1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, dark-----	41	345	
Slate-----	4	349	
Limestone-----	5	354	
Coal-----	4	358	Gas
Limestone, hard-----	3	361	
Limestone, sandy-----	15	376	
Sandstone-----	90	466	W. B.

Well 8/10W-3D1

Type of record: Driller's log.

Altitude: About 490 feet.

Quaternary system:			
Recent and Pleistocene series:			
Record missing-----	30	30	
Hardpan-----	15	45	
Pennsylvanian system:			
Middle (?) series:			
Sandstone, shaly-----	33	78	
Sandstone-----	2	80	W. B.
Limestone-----	5	85	
Shale, gray-----	60	145	
Coal-----	1	146	
Fire clay-----	9	155	
Limestone-----	5	160	
Shale, gray-----	4	164	
Red rock-----	4	168	
Shale, gray-----	3	171	
Limestone, sandy-----	14	185	
Shale, gray-----	5	190	

Well 8/10W-3G1

Type of record: Driller's log.

Altitude: About 465 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil-----	1	1	
Hardpan-----	15	16	
Sand, hard-----	6	22	
Limestone, hard-----	4	26	Cemented gravel (?)
Gravel-----	2	28	
Pennsylvanian system:			
Middle (?) series:			
Coal-----	1	29	
Shale, gray-----	6	35	
Shale, dark-----	3	38	
Limestone, shells-----	2	40	
Shale, sandy-----	5	45	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/10W-3G1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	10	55	
Shale, dark-----	10	65	
Shale, light-----	19	84	
Shale, dark-----	6	90	
Shale, light-----	10	100	
Shale, dark-----	10	110	
Shale, light-----	9	119	
Coal-----	2	121	
Fire clay-----	4	125	
Shale, dark-----	7	132	
Limestone-----	3	135	Gas
Shale, light-----	3	138	
Limestone, white-----	1	139	
Shale, light-----	3	142	
Red rock-----	3	145	
Sandstone, hard-----	20	165	
Shale, light-----	5	170	
Sandstone-----	5	175	
Shale, dark-----	5	180	
Shale, sandy-----	5	185	
Limestone, dark-----	15	200	
Shale, dark-----	5	205	
Limestone-----	3	208	
Shale-----	2	210	
Limestone-----	5	215	
Shale, dark-----	20	235	
Shale, light-----	2	237	
Coal-----	5	242	Gas
Fire clay-----	8	250	
Limestone, shells-----	2	252	
Shale, gray-----	8	260	
Limestone, sandy-----	10	270	
Limestone-----	5	275	
Coal-----	4	279	
Shale, dark-----	6	285	
Fire clay-----	15	300	
Limestone, shells-----	2	302	
Fire clay-----	2	304	
Shale-----	17	321	
Limestone-----	9	330	
Coal-----	3	333	
Fire clay-----	2	335	
Limestone, blue-----	3	338	
Shale-----	2	340	
Shale, light-----	10	350	
Shale, dark-----	10	360	
Limestone-----	5	365	T. D. 1,478 ft.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/10W-3P1

Type of record: Driller's log.

Altitude: About 500 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Hardpan-----	12	30	
Pennsylvanian system:			
Middle (?) series:			
Sandstone, gray-----	15	45	
Shale, sandy, dark-----	15	60	
Slate, black-----	5	65	
Coal-----	2	67	
Shale, gray-----	8	75	
Limestone, sandy-----	10	85	
Shale, gray-----	48	133	
Shale, dark-----	5	138	Trace of coal.
Shale, gray-----	16	154	
Limestone-----	3	157	
Shale, gray-----	7	164	
Shale, dark-----	6	170	
Shale, sandy-----	53	223	
Shale, gray-----	14	237	
Coal-----	2	239	
Shale, gray-----	14	253	
Limestone, sandy-----	9	262	
Shale, gray, and broken sand- stone-----	13	275	
Shale, dark-----	11	286	
Coal-----	3	289	

## Well 8/10W-4Q1

Type of record: Driller's log.

Altitude: About 470 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	
Shale, dark, and gravel-----	28	48	Clay (?)
Pennsylvanian system:			
Middle series:			
Shale, sandy, broken, gray-----	16	64	
Shale, dark-----	3	67	
Shale, sandy, broken, gray-----	20	87	
Shale, dark, and slate-----	3	90	
Shale, gray-----	5	95	
Limestone-----	2	97	
Sandstone-----	6	103	
Shale, gray-----	2	105	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-5J1

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

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	18	18	
Hardpan-----	67	85	
Shale, soft-----	7	92	Clay (?)
Sand and gravel-----	22	114	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	2	116	
Sandstone-----	9	125	W. B.
Shale, dark-----	3	128	

Well 8/10W-5M1

Type of record: Driller's log. Altitude: About 464 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil-----	8	8	
Gravel-----	66	74	
Pennsylvanian system:			
Middle (?) series:			
Limestone-----	5	79	
Sandstone and limestone (?)-----	8	87	
Shale-----	29	116	
Coal-----	1	117	
Limestone-----	1	118	
Coal-----	2	120	
Shale, gray-----	17	137	
Sandstone and limestone (?)-----	13	150	
Shale-----	43	193	
Limestone-----	4	197	
Red rock and shale-----	3	200	
Red rock-----	3	203	
Shale-----	8	211	
Limestone-----	2	213	
Sandstone-----	52	265	
Limestone, sandy-----	5	270	
Shale-----	37	307	
Shale, sandy-----	6	313	
Shale-----	17	330	
Coal-----	2	332	Gas
Shale-----	41	373	
Sandstone-----	6	379	
Slate-----	3	382	
Coal-----	1	383	
Shale-----	15	398	
Sandstone-----	10	408	T. D. 585 ft.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-6K1

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

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	
Sand and gravel-----	41	61	
Shale, light-----	8	69	Clay (?)
Gravel and mud-----	28	97	
Mud-----	23	120	
Pennsylvanian system:			
Middle (?) series:			
Sandstone, hard-----	9	129	
Shale, light-----	31	160	
Slate-----	17	177	
Coal-----	2	179	
Shale-----	11	190	
Shale, sandy-----	16	206	
Shale-----	18	224	
Slate-----	16	240	
Shale-----	15	255	
Limestone-----	6	261	
Red rock-----	3	264	
Shale-----	5	269	
Sandstone-----	6	275	Gas
Shale, light-----	9	284	
Limestone-----	5	289	
Shale, sandy-----	61	350	
Coal-----	2	352	
Shale, light-----	44	396	
Coal-----	2	398	
Slate, black-----	2	400	T. D. 2,747 ft.

Well 8/10W-6N1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	25	25	
Hardpan and shale (?)-----	59	84	Clay (?)
Gravel-----	2	86	
Pennsylvanian system:			
Middle series:			
Shale-----	28	114	
Sandstone-----	1	115	W. B.
Shale, dark-----	3	118	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-6P1

Type of record: Driller's log.

Altitude: About 508 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Drift-----	20	20	
Sand-----	10	30	
Shale, gray-----	2	32	Clay (?)
Sand-----	12	44	
Shale (?) and gravel-----	71	115	Clay (?)
Gravel-----	15	130	
Pennsylvanian system:			
Middle (?) series:			
Shale, white-----	20	150	
Shale, sandy, brown-----	10	160	
Sandstone-----	15	175	
Shale, gray-----	66	241	
Coal-----	2	243	
Shale, gray-----	7	250	
Limestone, broken-----	10	260	
Shale-----	5	265	
Red rock-----	3	268	T. D. 852 ft.

Well 8/10W-7D1

Type of record: Driller's log.

Altitude: About 495 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	18	18	
Hardpan-----	40	58	
Mud and sand-----	14	72	
Shale, soft-----	18	90	Clay (?)
Sand and gravel-----	23	113	W. B.

Well 8/10W-7E1

Type of record: Driller's log.

Altitude: About 470 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	8	8	
Gravel-----	32	40	
Shale, sandy-----	30	70	Clay (?)
Slate-----	2	72	Compact clay (?)
Sand-----	2	74	
Pennsylvanian system:			
Middle series:			
Slate-----	1	75	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/10W-7M1

Type of record: Driller's log.

Altitude: About 470 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	16	16	
Shale, blue-----	9	25	Clay (?)
Shale, gray-----	35	60	Do
Shale, green-----	5	65	Do
Shale, sandy-----	5	70	Do

## Well 8/10W-8A1

Type of record: Driller's log.

Altitude: About 470 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	10	10	
Pennsylvanian system:			
Upper (?) series:			
Sandstone, red-----	35	45	
Sandstone, white-----	19	64	W. B.
Middle (?) series:			
Coal-----	1	65	
Limestone-----	7	72	
Shale, gray-----	3	75	
Slate, black-----	5	80	
Shale, light-----	1	81	

## Well 8/10W-8C1

Type of record: Driller's log.

Altitude: About 454 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand and gravel-----	30	30	
Mud, blue-----	20	50	
Sand-----	10	60	W. B.
Pennsylvanian system:			
Middle (?) series:			
Shale, blue-----	20	80	
Sandstone-----	20	100	
Shale, gray-----	20	120	
Shale, blue-----	10	130	
Shale, gray-----	10	140	
Shale, dark-----	10	150	
Shale, sandy-----	10	160	
Slate, dark-----	31	191	
Limestone, white-----	6	197	
Red rock-----	3	200	
Shale, dark-----	6	206	
Sandstone, hard-----	4	210	
Coal-----	5	215	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/10W-8C1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, light-----	20	235	
Shale, dark-----	50	285	
Coal-----	5	290	
Limestone, shell-----	3	293	
Shale, sandy-----	7	300	
Sandstone, coarse-----	15	315	
Shale, dark-----	12	327	
Coal-----	5	332	Gas
Fire clay-----	23	355	
Shale-----	15	370	
Shale, sandy-----	5	375	
Limestone, shell-----	3	378	
Coal-----	7	385	
Slate-----	15	400	T. D. 1,184 ft.

## Well 8/10W-8L1

Type of record: Driller's log.

Altitude: About 470 feet.

Quaternary system:			
Recent and Pleistocene (?) series:			
Surface and clay-----	14	14	
Hardpan-----	6	20	
Shale, soft, gray-----	20	40	Clay (?)
Shale, dark-----	12	52	Clay (?)
Sand and gravel-----	10	62	W. B.
Shale, soft-----	8	70	Clay (?)
Pennsylvanian system:			
Middle series:			
Shale, dark-----	15	85	
Limestone, hard-----	5	90	
Shale, gray-----	8	98	
Shale, sandy-----	9	107	
Shale, dark-----	9	116	

## Well 8/10W-9B1

Type of record: Driller's log.

Altitude: About 465 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	12	12	
Pennsylvanian system:			
Upper (?) series:			
Shale, gray-----	8	20	
Shale, dark-----	26	46	
Sandstone-----	8	54	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-9B2

Type of record: Core drill log.

Altitude: About 485 feet.

Materials	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	9	9	
Clay, sandy, gray-----	5.4	14.4	
Pennsylvanian system:			
Upper (?) series:			
Shale, hard, gray-----	.2	14.6	
Shale, gray-----	6.3	20.9	
Shale, hard, gray-----	.1	21	
Shale, gray-----	12.6	33.6	
Sandstone, solid-----	.1	33.7	

Well 8/10W-10C1

Type of record: Driller's log.

Altitude: About 483 feet.

Materials	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Soil-----	6	6	
Shale, hard-----	2	8	Clay (?)
Sand and gravel-----	2	10	
Mud-----	8	18	
Sand, hard-----	2	20	
Mud-----	10	30	
Pennsylvanian system:			
Upper (?) series:			
Shale, sandy, dark-----	18	48	
Sandstone, slate, and coal-----	4	52	
Sandstone, hard-----	10	6	
Middle (?) series:			
Shale, light-----	55	117	
Shale, limy-----	25	142	
Limestone, hard-----	3	145	
Shale, gray-----	2	147	
Red rock-----	3	150	
Shale, green-----	1	151	
Shale, muddy-----	20	171	
Shale, gray-----	20	191	
Sandstone-----	17	208	
Sandstone, hard-----	7	215	
Shale, sandy-----	10	225	
Shale, dark-----	3	228	
Limestone, shell-----	2	230	
Shale, dark-----	30	260	
Sandstone-----	15	275	
Shale, gray-----	5	280	
Coal-----	5	285	Gas
Shale, gray-----	30	315	
Sandstone-----	5	320	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-10C1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Coal-----	5	325	
Shale, dark-----	5	330	
Limestone, shell-----	3	333	
Coal-----	4	337	
Fire clay-----	7	344	
Shale, gray-----	21	365	
Sandstone, hard-----	10	375	

Well 8/10W-10D1

Type of record: Driller's log.

Altitude: About 510 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	18	18	
Pennsylvanian system:			
Middle (?) series:			
Shale, blue-----	17	35	
Shale, dark-----	4	39	
Coal-----	2	41	
Fire clay-----	4	45	
Shale, sandy, broken-----	10	55	
Shale, dark-----	21	76	
Limestone-----	4	80	
Sandstone-----	27	107	
Slate-----	2	109	
Shale, sandy, dark-----	16	125	
Coal-----	--	125	

Well 8/10W-10D2

Type of record: Driller's log.

Altitude: About 510 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	25	25	
Hardpan-----	20	45	
Pennsylvanian system:			
Upper (?) series:			
Sandstone, broken, and shale-----	27	72	
Shale, dark, and sandstone-----	18	90	
Coal-----	3	93	
Shale, gray-----	7	100	
Sandstone-----	12	112	
Middle (?) series:			
Shale, gray-----	71	183	
Limestone-----	1	184	
Shale, gray-----	11	195	
Shale, dark-----	24	219	
Sandstone-----	30	249	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-10D2--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	19	268	
Coal-----	1	269	
Shale, gray-----	16	285	
Limestone, sandy-----	5	290	
Shale, gray-----	12	302	
Limestone-----	2	304	
Slate-----	11	315	
Coal-----	2	317	
Slate-----	2	319	
Limestone-----	2	321	

## Well 8/10W-10H1

Type of record: Driller's log.

Altitude: About 540 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	8	8	
Hardpan-----	17	25	
Pennsylvanian system:			
Upper (?) series:			
Slate-----	11	36	
Sandstone-----	14	50	
Slate-----	10	60	
Unknown, sandy-----	10	70	
Shale-----	8	78	
Coal-----	1	79	
Fire clay-----	1	80	
Shale-----	10	90	
Shale, sandy-----	25	115	
Middle (?) series:			
Shale-----	109	224	
Coal-----	1	225	
Shale-----	5	230	
Limestone-----	2	232	
Shale-----	5	237	
Limestone-----	5	242	
Red rock-----	2	244	
Shale-----	9	253	
Limestone-----	11	264	
Shale-----	16	280	
Shale, sandy-----	7	287	
Shale-----	43	330	
Limestone-----	3	333	
Coal-----	3	336	
Fire clay-----	2	338	
Shale-----	5	343	
Limestone-----	1	344	
Shale-----	7	351	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-10P1		Altitude: About 610 feet.	
Type of record: Driller's log.			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface-----	10	10	
Pennsylvanian system:			
Upper (?) series:			
Shale, sandy, light-gray-----	21	31	
Limestone, tan-----	.4	31.4	
Shale, sandy, light-gray-----	5.2	36.6	
Coal-----	1.4	38	
Fire clay-----	7	45	
Shale, sandy-----	23	68	
Shale and brown siderite bands---	10	78	
Shale, dark-gray-----	22	100	
Slate, black-----	4	104	
Coal-----	.4	104.4	
Fire clay-----	1.6	106	
Sandstone with laminations of shale-----	16	122	
Shale, sandy-----	23.6	145.6	
Coal-----	1	146.6	
Fire clay-----	1.4	148	
Shale, sandy-----	17	165	
Shale with dark-gray siderite bands-----	15	180	
Sandstone, calcareous-----	11	191	
Limestone, hard-----	3	194	
Sandstone, coarse-grained-----	16	210	
Sandstone, calcareous-----	14	224	
Slate, flaky, black-----	4	228	
Coal-----	1.6	229.6	
Shale, calcareous-----	5.4	235	
Sandstone, calcareous, hard-----	10	245	
Shale, soft, dark-gray-----	10	255	
Sandstone, fine-grained-----	3	258	
Middle (?) series:			
Shale, dark-gray-----	33	291	
Shale, dark, containing bluff sideritic bands-----	3	294	
Coal-----	1.6	295.6	
Fire clay-----	9.4	305	
Limestone (2 limestones with about 1 ft. break between them)-----	7	312	
Shale, light, with flakes of green and yellow mottled (almost white)-----	2	314	
Shale, red (pink)-----	3	317	
Shale, gray-----	28	345	
Slate and black coal-----	1	346	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/10W-10P1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, sandy, and sandstone-----	54	400	
Coal-----	3	403	
Fire clay-----	4	407	
Shale, dark-gray-----	8	415	
Sandstone, calcareous, and sandy limestone-----	24	439	
Shale-----	2	441	
Coal-----	3	444	
Slate, black-----	3	447	
Fire clay-----	3	450	

## Well 8/10W-11N1

Type of record: Driller's log. Altitude: About 576 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	20	40	
Shale, dark-----	6	46	
Limestone-----	2	48	
Sandstone-----	6	54	
Shale, gray-----	40	94	
Coal-----	2	96	
Limestone and shale-----	14	110	
Shale, gray-----	9	119	
Sandstone-----	59	178	
Limestone-----	13	191	
Shale, gray-----	8	199	
Limestone-----	9	208	
Shale-----	27	235	
Limestone-----	8	243	
Red rock-----	5	248	
Shale, green-----	52	300	
Coal-----	3	303	
Shale-----	77	380	
Limestone-----	5	385	
Coal-----	5	390	
Shale-----	108	498	T. D. 895 ft.

## Well 8/10W-11P1

Type of record: Driller's log. Altitude: About 554 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/10W-11P1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, black-----	10	28	
Shale, dark-----	4	32	
Coal-----	1	33	
Fire clay-----	3	36	
Shale, gray-----	16	52	
Shale, dark-----	10	62	
Shale, and sandy limestone-----	11	73	
Shale, sandy, gray-----	23	96	
Shale, dark-----	10	106	
Coal-----	3	109	
Shale, gray-----	5	114	
Limestone-----	2	116	
Shale, gray-----	24	140	
Shale, dark-----	30	170	
Shale, gray-----	14	184	
Limestone-----	2	186	
Shale, gray-----	1	187	
Limestone-----	3	190	
Shale, gray-----	5	195	
Red rock-----	5	200	
Shale, green-----	7	207	
Sandstone-----	11	218	
Shale, sandy, gray-----	47	265	
Shale, dark-----	16	281	
Coal-----	4	285	
Fire clay-----	6	291	
Limestone-----	4	295	
Shale, sandy, gray-----	13	308	
Shale, gray-----	7	315	
Shale, dark-----	10	325	
Coal-----	5	330	
Limestone-----	30	360	
Shale, dark-----	5	365	
Limestone-----	3	368	
Slate, dark-----	3	371	
Sandstone-----	11	382	
Limestone, sandy-----	3	385	
Shale, sandy-----	25	410	
Shale, dark-----	60	470	
Slate, black-----	2	472	
Limestone, black-----	5	477	
Coal-----	3	480	
Shale and broken limestone-----	5	485	
Sandstone-----	27	512	W. B., show of oil

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-11P2

Type of record: Driller's log.

Altitude: About 552 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Drift-----	20	20	
Sand-----	2	22	
Pennsylvanian system:			
Middle (?) series:			
Coal-----	2	24	
Shale, gray-----	16	40	
Shale, dark-----	45	85	
Limestone, sandy-----	10	95	
Coal-----	3	98	
Shale, gray-----	72	170	
Limestone, shells-----	2	172	
Shale, gray-----	4	176	
Limestone, shells-----	2	178	
Shale, green-----	1	179	
Limestone and red rock-----	5	184	
Shale, light-----	41	225	
Coal-----	2	227	
Shale, gray-----	59	286	
Shale, sandy, hard, gray-----	14	300	
Shale, soft, gray-----	18	318	
Coal-----	3	321	
Shale-----	15	336	
Slate, black-----	4	340	
Shale, light-----	15	355	
Limestone-----	10	365	T. D. 1,160 ft.

Well 8/10W-11Q1

Type of record: Driller's log.

Altitude: About 520 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Gravel-----	1	19	
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	21	40	
Sandstone, broken-----	37	77	
Shale, gray-----	13	90	
Sandstone-----	18	108	
Sandstone, broken-----	19	127	
Shale, gray-----	21	148	
Limestone, sandy-----	5	153	
Shale, gray-----	6	159	
Limestone-----	6	165	
Shale, gray-----	1	166	
Red rock-----	5	171	



Table 2. --Selected well logs, Sullivan County, Indiana--Continued

## Well 8/10W-11Q1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, green-----	2	173	
Sandstone-----	10	183	
Sandstone, broken-----	55	238	
Shale, gray-----	10	248	
Sandstone, shaly-----	20	268	
Sandstone-----	4	272	
Limestone, sandy-----	11	283	
Shale, dark-gray-----	12	295	
Slate, black, and coal-----	10	305	
Shale, light-gray-----	25	330	
Limestone-----	1	331	
Shale-----	8	339	
Limestone, dark-brown-----	5	344	
Coal-----	2	346	
Shale, gray-----	4	350	
Sandstone, shaly-----	38	388	
Shale, sandy-----	12	400	
Sandstone, broken-----	43	443	
Slate and limestone shell-----	11	454	
Limestone-----	2	456	
Slate, black-----	7	463	
Sandstone, shaly-----	15	478	Show of oil
Sandstone-----	23	501	W. B.

## Well 8/10W-13F1

Type of record: Driller's log.

Altitude: About 525 feet.

Dug well-----	27	27	
Pennsylvanian system:			
Middle series:			
Shale-----	23	50	
Sandstone-----	8	58	
Limestone-----	1	59	
Shale, dark-----	5	64	
Coal-----	1	65	
Fire clay-----	3	68	

## Well 8/10W-14K1

Type of record: Driller's log.

Altitude: About 543 feet.

Quaternary system:			
Recent and Pleistocene (?) series:			
Clay, yellow, to blue shale-----	38	38	
Pennsylvanian system:			
Middle (?) series:			
Coal-----	2	40	W. B.
Shale, soft, blue to gray-----	35	75	
Sandstone, soft, yellow-----	7	82	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-14K1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	10	92	
Shale, sandy, gray-----	16	108	
Shale, gray-----	6	114	
Shale, slaty, dark-----	4	118	
Coal, soft, dirty-----	4	122	
Shale, gray-----	13	135	
Limestone, gray, sandy at base---	8	143	
Shale, gray to dark to white----	52	195	
Limestone, hard, gray-----	15	210	
Shale, white-----	4	214	
Limestone, shaly, white-----	18	232	
Shale, gray-----	28	260	
Limestone, slightly broken-----	35	295	
Coal-----	5	300	
Shale, sandy-----	15	315	
Limestone, gray-----	3	318	
Shale, light-gray-----	12	330	
Shale, dark-----	55	385	
Limestone, hard, gray-----	10	395	
Coal-----	5	400	
Shale, dark to gray-----	14	414	T. D. 1,659 ft.

Well 8/10W-14L2

Type of record: Driller's log.

Altitude: About 525 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Gravel-----	4	22	W. B.
Clay-----	18	40	
Pennsylvanian system:			
Middle (?) series:			
Shale-----	20	60	
Shale, sandy-----	20	80	
Shale, dark-----	20	100	
Coal-----	2	102	
Shale, sandy-----	13	115	
Shale, gray-----	10	125	
Sandstone-----	5	130	
Limestone-----	7	137	
Shale, sandy-----	23	160	
Shale, dark-----	8	168	
Coal-----	1	169	
Sandstone, hard-----	6	175	
Shale, gray-----	13	188	
Limestone, sandy-----	8	196	
Shale, sandy-----	6	202	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-14L2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Sandstone-----	6	208	
Shale, gray-----	17	225	
Sandstone-----	15	240	
Sandstone, shaly-----	8	248	
Sandstone-----	4	252	
Shale, gray-----	28	280	
Coal-----	1	281	
Shale, sandy-----	27	308	
Shale, dark-----	12	320	
Coal-----	2	322	
Shale, gray-----	36	358	
Sandstone-----	7	365	
Coal-----	1	366	
Shale, sandy-----	11	377	T. D. 822 ft.

Well 8/10W-15E1

Type of record: Driller's log.

Altitude: About 575 feet.

Record missing-----	42	42	
Pennsylvanian system:			
Middle (?) series:			
Shale, blue-----	10	52	
Limestone, gray-----	1	53	
Shale, dark, and coal-----	3	56	
Shale, gray-----	9	65	
Sandstone-----	5	70	
Shale, gray-----	15	85	
Slate, gray-----	5	90	
Slate, dark-----	6	96	
Coal-----	3	99	
Fire clay-----	2	101	
Shale-----	3	104	
Sandstone-----	5	109	
Shale, white-----	15	124	
Limestone, brown-----	1	125	
Shale, light-----	5	130	
Shale, sandy-----	4	134	
Sandstone-----	28	162	W. B.

Well 8/10W-15H1

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Top soil-----	10	10	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-15H1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Sandstone-----	10	20	
Shale, blue-----	30	50	
Shale, dark-gray-----	20	70	
Shale, sandy, light-----	28	98	
Shale, sandy, brown-----	20	118	
Shale, gray-----	27	145	
Shale, sandy-----	5	150	
Shale, gray-----	51	201	
Limestone-----	2	203	
Shale, gray-----	11	214	
Limestone-----	6	220	
Shale, light-----	23	243	
Shale, sandy-----	10	253	
Limestone, brown-----	7	260	
Shale, light-gray-----	8	268	
Limestone, sandy-----	5	273	
Limestone, gray-----	7	280	
Shale, gray-----	5	285	
Coal, shaly, dark-----	2	287	
Shale, gray-----	13	300	
Shale, sandy, dark-----	10	310	
Shale, gray-----	27	337	
Coal-----	3	340	
Shale-----	35	375	
Limestone, hard, light-----	4	379	
Limestone, hard, brown-----	3	382	
Shale, dark-gray-----	5	387	T. D. 850 ft.

Well 8/10W-16C1

Type of record: Driller's log.

Altitude: About 600 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	14	14	
Pennsylvanian system:			
Upper series:			
Sandstone, soft-----	46	60	
Middle series:			
Limestone, hard-----	4	64	W. B.
Shale, gray-----	7	71	
Coal-----	1	72	
Limestone-----	3	75	W. B.
Shale, sandy-----	9	84	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-16C2

Type of record: Driller's log.

Altitude: About 612 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	10	10	
Pennsylvanian system:			
Upper series:			
Sandstone, red-----	35	45	
Sandstone, white-----	19	64	
Middle series:			
Coal-----	1	65	
Limestone-----	7	72	
Shale, gray-----	3	75	
Slate, black-----	5	80	
Shale, light-----	1	81	

Well 8/10W-16D1

Type of record: Driller's log.

Altitude: About 590 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	17	17	
Pennsylvanian system:			
Upper series:			
Sandstone, red-----	6	23	
Sandstone-----	25	48	W. B.
Middle series:			
Shale, light-----	2	50	
Limestone, hard-----	4	54	W. B.
Shale, dark-----	4	58	
Coal-----	2	60	
Fire clay-----	3	63	
Shale, dark-----	7	70	
Limestone, hard-----	4	74	
Limestone, broken-----	6	80	

Well 8/10W-16H1

Type of record: Driller's log.

Altitude: About 612 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	12	12	
Pennsylvanian system:			
Upper series:			
Sandstone-----	32	44	
Middle series:			
Limestone, hard-----	5	49	
Shale, light-----	12	61	
Limestone, hard-----	3	64	
Shale, blue-----	16	80	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/10W-16H1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Coal-----	1	81	
Shale, dark-----	34	115	
Limestone, hard-----	1	116	
Sandstone-----	9	125	W. B.
Shale, light-----	43	168	
Sandstone, white-----	12	180	W. B.
Shale, gray-----	15	205	
Shale, sandy-----	44	249	
Coal and black slate-----	2	251	
Shale, gray-----	69	320	
Coal-----	2	322	
Shale, light-----	13	335	
Limestone, shell-----	3	338	
Red rock-----	4	342	
Shale, green-----	23	365	
Sandstone, coarse, gray-----	30	395	
Shale, sandy-----	28	423	
Coal, soft-----	2	425	T. D. 968 ft.

## Well 8/10W-16R1

Type of record: Driller's log.

Altitude: About 581 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	30	30	
Pennsylvanian system:			
Middle series:			
Limestone-----	10	40	
Shale, gray-----	30	70	
Shale, blue-----	50	120	
Sandstone-----	15	135	
Shale, blue-----	17	152	
Coal-----	2	154	
Shale, gray-----	6	160	
Shale, blue-----	35	195	
Shale, sandy-----	38	233	
Coal-----	2	235	
Shale, blue-----	15	250	
Sandstone-----	10	260	W. B.
Shale, sandy-----	5	265	
Shale, blue-----	55	320	
Limestone-----	5	325	
Shale, black-----	15	340	
Shale, gray-----	5	345	
Sandstone-----	15	360	
Shale, sandy-----	40	400	
Coal-----	2	402	T. D. 1,818 ft.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-17H1

Type of record: Driller's log.

Altitude: About 580 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	15	15	
Hardpan-----	35	50	W. B.
Pennsylvanian system:			
Middle series:			
Shale, soft-----	30	80	
Shale, dark-----	9	89	
Limestone, hard-----	1	90	
Coal-----	2	92	W. B.
Fire clay-----	3	95	
Limestone, broken-----	5	100	
Shale, gray-----	15	115	
Shale, dark-----	14	129	
Coal-----	2	131	
Fire clay-----	4	135	
Limestone, sandy-----	3	138	
Sandstone-----	8	146	W. B.
Shale, dark-----	15	161	

Well 8/10W-18C1

Type of record: Driller's log.

Altitude: About 470 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	16	16	
Hardpan-----	3	19	
Mud, blue-----	56	75	
Quicksand-----	21	96	W. B.
Pennsylvanian system:			
Middle series:			
Limestone, sandy-----	4	100	
Sandstone, light-----	9	109	W. B.
Shale, dark-----	10	119	

Well 8/10W-18J3

Type of record: Driller's log.

Altitude: About 590 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	25	25	
Sand-----	17	42	
Pennsylvanian system:			
Upper series:			
Shale-----	13	55	
Sandstone-----	27	82	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-19A1

Type of record: Driller's log.

Altitude: About 550 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	22	22	
Sand and muck-----	12	34	
Pennsylvanian system:			
Upper series:			
Sandstone, white-----	26	60	W. B.
Middle series:			
Coal and slate-----	4	64	
Fire clay-----	2	66	
Limestone, hard-----	2	68	

Well 8/10W-19D1

Type of record: Driller's log.

Altitude: About 540 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	20	20	
Sandstone, soft-----	7	27	Cemented sand (?)
Mud-----	2	29	
Pennsylvanian system:			
Upper series:			
Sandstone, solid-----	23	52	
Sandstone, gray-----	17	69	
Middle series:			
Limestone-----	1	70	

Well 8/10W-19H1

Type of record: Driller's log.

Altitude: About 570 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	17	17	
Pennsylvanian system:			
Upper series:			
Sandstone-----	8	25	
Sandstone, gray-----	23	48	
Middle series:			
Limestone, hard-----	2	50	

Well 8/10W-19J1

Type of record: Driller's log.

Altitude: About 565 feet.

Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	18	18	
Sandstone-----	2	20	W. B.; cemented sand (?)
Sandstone, red-----	3	23	Cemented sand (?)



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/10W-19J1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Hardpan-----	23	46	
Hardpan, yellow-----	6	52	
Pennsylvanian system:			
Upper series:			
Sandstone-----	3	55	W. B.
Middle series:			
Limestone-----	1	56	

## Well 8/10W-19J2

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	18	18	
Pennsylvanian system:			
Upper series:			
Sandstone, soft-----	12	30	
Sandstone, reddish-----	10	40	
Sandstone, light-----	7	47	W. B.
Sandstone, reddish-----	6	53	
Middle series:			
Limestone-----	--	53	

## Well 8/10W-19P1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	22	22	
Sand and gravel-----	23	45	
Pennsylvanian system:			
Middle series:			
Limestone, hard-----	4	49	W. B.
Shale, black-----	7	56	
Shale, light-----	18	74	
Limestone, hard-----	2	76	
Slate-----	4	80	
Coal-----	2	82	
Shale, dark-----	3	85	
Sandstone-----	10	95	W. B.
Shale, sandy-----	8	103	

## Well 8/10W-19R2

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/10W-19R2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Hardpan-----	7	27	
Pennsylvanian system:			
Upper series:			
Sandstone-----	31	58	W. B.
Middle series:			
Limestone-----	--	58	

## Well 8/10W-19R3

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

Quaternary system:			
Recent and Pleistocene series:			
Soil and hardpan-----	19	19	
Pennsylvanian system:			
Upper series:			
Sandstone, red-----	38	57	W. B.
Middle series:			
Limestone-----	--	57	

## Well 8/10W-20E1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	
Sand, red-----	13	33	
Pennsylvanian system:			
Upper series:			
Sandstone, red-----	20	53	
Sandstone, gray-----	9	62	

## Well 8/10W-20M1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	
Pennsylvanian system:			
Upper series:			
Sandstone, red-----	35	55	W. B.
Sandstone, gray-----	7	62	W. B.

## Well 8/10W-20N1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	17	17	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-20N1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Upper series:			
Sandstone-----	30	47	W. B. 40 to 47 ft.
Middle series:			
Limestone-----	2	49	

Well 8/10W-20N2

Type of record: Driller's log.		Altitude: About 545 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	30	30	
Pennsylvanian system:			
Upper series:			
Sandstone, red-----	10	40	
Sandstone, white-----	10	50	W. B.
Middle series:			
Shale, blue-----	4	54	

Well 8/10W-21K1

Type of record: Driller's log.		Altitude: About 530 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	12	12	
Hardpan-----	8	20	
Pennsylvanian system:			
Middle series:			
Shale, gummy-----	20	40	
Limestone, broken-----	8	48	
Slate, gray-----	22	70	
Slate, black-----	10	80	
Limestone, sandy-----	4	84	W. B.
Slate, gray-----	29	113	
Coal-----	2	115	
Fire clay-----	5	120	
Limestone, sandy-----	10	130	
Slate, gray-----	37	167	
Sandstone-----	23	190	
Slate, black-----	5	195	W. B.
Fire clay-----	5	200	
Limestone-----	6	206	
Shale, sandy-----	17	223	
Shale, dark-----	7	230	
Sandstone-----	20	250	W. B.
Shale, dark-----	15	265	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/10W-22J1

Type of record: Driller's log.

Altitude: About 525 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	23	23	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	15	38	
Slate, dark-----	10	48	
Coal-----	1	49	
Fire clay-----	3	52	
Shale, sandy-----	8	60	
Shale, gray-----	12	72	
Shale, dark-----	13	85	
Shale, sandy-----	21	106	
Sandstone-----	19	125	W. B.
Slate, black-----	5	130	
Coal-----	2	132	
Fire clay-----	3	135	
Shale, gray-----	9	144	
Sandstone-----	21	165	W. B.
Shale, dark-----	2	167	

## Well 8/10W-22M1

Type of record: Driller's log.

Altitude: About 530 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	15	15	
Hardpan-----	9	24	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	4	28	
Slate, soft, dark-----	22	50	
Limestone, hard-----	3	53	
Coal and fire clay-----	5	58	
Limestone, hard-----	3	61	
Sandstone-----	11	72	W. B.
Shale, gray-----	8	80	
Shale, sandy-----	14	94	
Slate, black-----	4	98	
Coal-----	4	102	
Fire clay-----	3	105	
Limestone, hard-----	2	107	
Shale, sandy-----	28	135	
Limestone, hard-----	4	139	
Shale, sandy-----	35	174	W. B.
Slate, dark-----	6	180	
Coal-----	5	185	
Shale, sandy-----	27	212	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-22M1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, dark-----	25	237	
Shale, sandy-----	--	237	

Well 8/10W-23A1

Type of record: Driller's log.

Altitude: About 506 feet.

Quaternary system:			
Recent and Pleistocene (?) series:			
Clay, sandy-----	20	20	Clay (?)
Shale, sandy, gray-----	15	35	
Mud, soft, green-----	14	49	
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	13	64	T. D. 793 ft.
Coal and slate-----	2	66	
Fire clay-----	4	70	
Shale, light-gray-----	82	152	
Limestone-----	3	155	
Shale-----	2	157	
Red rock and shale-----	5	162	
Shale, gray-----	24	186	
Shale, dark-gray-----	18	204	
Shale, gray-----	41	245	
Coal-----	2	247	
Shale, light-gray-----	8	255	
Limestone, sandy-----	10	265	
Shale-----	10	275	
Shale, gray-----	5	280	
Slate, dark-----	7	287	
Coal-----	2	289	
Shale, soft, dark-----	21	310	
Shale, light-gray-----	17	327	
Sandstone-----	5	332	

Well 8/10W-23C1

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	13	13	Cemented sand (?)
Sandstone-----	7	20	
Sand and gravel-----	23	43	
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	42	85	
Sandstone-----	33	118	
Shale, dark-----	15	133	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-23C1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Sandstone, shaly-----	11	144	
Shale, gray-----	56	200	
Limestone-----	7	207	
Shale, gray-----	4	211	
Red rock-----	4	215	
Sandstone, shaly-----	86	301	
Coal-----	2	303	
Shale, sandy-----	12	315	
Limestone-----	4	319	
Shale, sandy-----	23	342	
Coal-----	1	343	
Shale, dark-gray-----	37	380	
Limestone-----	6	386	T. D. 828 ft.

Well 8/10W-23G1

Type of record: Driller's log.

Altitude: About 510 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and gravel-----	16	16	
Hardpan-----	22	38	
Sand-----	2	40	W. B., gas
Hardpan-----	17	57	
Pennsylvanian system:			
Middle (?) series:			
Shale, dark-----	8	65	
Coal-----	1	66	
Shale, gray-----	11	77	
Limestone-----	5	82	
Shale, limy, broken-----	18	100	
Shale, gray-----	29	129	
Limestone-----	2	131	
Shale, gray-----	10	141	
Limestone-----	4	145	
Coal, shale, and red rock-----	3	148	

Well 8/10W-23J1

Type of record: Driller's log.

Altitude: About 510 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	15	15	
Gravel and clay-----	15	30	
Clay-----	20	50	
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	26	76	
Slate, black, and coal-----	2	78	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-23J1--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	22	100	
Sandstone-----	18	118	W. B.
Shale, gray-----	12	130	
Sandstone-----	15	145	W. B.
Shale, gray-----	7	152	
Limestone-----	3	155	
Shale, gray-----	3	158	
Limestone-----	4	162	
Red rock-----	5	167	
Shale, gray-----	12	179	
Limestone-----	3	182	

## Well 8/10W-23K1

Type of record: Driller's log.

Altitude: About 507 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	10	10	
Sand-----	1	11	
Sandstone-----	1	12	Cemented sand (?)
Hardpan-----	38	50	
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	16	66	
Limestone-----	3	69	
Slate-----	7	76	
Coal-----	2	78	
Fire clay-----	4	82	
Shale, sandy-----	33	115	
Slate-----	8	123	
Sandstone-----	5	128	
Shale, gray-----	23	151	
Limestone-----	4	155	
Shale, gray, and red rock-----	9	164	
Shale, gray-----	6	170	
Sandstone-----	6	176	
Shale, gray-----	68	244	
Slate, black-----	2	246	
Fire clay-----	3	249	
Shale-----	7	256	
Limestone, sandy-----	10	266	
Shale, gray-----	14	280	
Shale, dark-----	9	289	
Coal-----	5	294	
Shale, gray-----	31	325	
Sandstone-----	7	332	
Shale, gray-----	10	342	





Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-24A1--Continued				
Material	Thick- ness (feet)	Depth (feet)	Remarks	
Pennsylvanian system:				
Middle (?) series:				
Shale, gray-----	17	62	W. B.	
Slate, dark-----	8	70		
Coal-----	3	73		
Shale, light-----	2	75		
Limestone, hard-----	2	77		
Shale, gray-----	8	85		
Shale, sandy, dark-----	35	120		
Shale, dark-----	15	135		
Shale, light-----	14	149		
Limestone, hard-----	5	154		
Red rock-----	11	165		
Limestone, broken, and sandstone-	13	178		W. B.
Shale, dark-----	12	190		
Shale, sandy-----	10	200		

## Well 8/10W-24E1

Type of record: Driller's log.

Altitude: About 516 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	16	16	
Sand-----	2	18	
Hardpan-----	14	32	
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	42	74	Gas
Coal-----	1	75	
Fire clay-----	3	78	
Shale, gray-----	47	125	
Shale, sandy-----	10	135	
Shale, gray-----	21	156	
Limestone-----	1	157	
Shale, gray-----	1	158	
Limestone-----	5	163	
Shale, gray-----	4	167	
Limestone-----	18	185	
Shale, dark-----	7	192	
Shale, sandy-----	4	196	
Shale, dark-----	47	243	
Coal-----	1	244	
Fire clay-----	8	252	
Limestone-----	5	257	
Shale, sandy-----	13	270	
Shale, dark-----	20	290	
Coal-----	5	295	
Shale-----	28	323	
Limestone, sandy-----	3	326	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-24E1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, dark-----	7	333	
Shale, gray-----	90	423	T. D. 771 ft.

Well 8/10W-24G1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	20	35	
Shale, dark-----	8	43	
Limestone-----	12	55	
Shale, dark-----	5	60	
Sandstone, broken-----	40	100	
Coal-----	2	102	
Sandstone, broken-----	5	107	
Limestone-----	4	111	
Sandstone-----	74	185	W. B.

Well 8/10W-25J2

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	17	17	
Hardpan-----	9	26	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	4	30	
Shale, dark-----	15	45	
Limestone, sandy-----	11	56	
Shale, gray-----	9	65	
Shale, sandy, broken-----	21	86	
Slate, black-----	4	90	
Shale, gray-----	5	95	
Limestone-----	8	103	
Sandstone-----	62	165	
Shale, gray-----	18	183	
Limestone-----	5	188	
Shale, dark-----	12	200	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-25L1

Type of record: Driller's log.

Altitude: About 520 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Record missing-----	40	40	
Pennsylvanian system:			
Middle series:			
Shale-----	39	79	
Shale, sandy-----	5	84	
Shale-----	1	85	
Limestone-----	3	88	
Coal-----	2	90	
Shale-----	8	98	
Shale, sandy-----	7	105	
Shale-----	12	117	
Sandstone-----	18	135	
Shale, dark-----	2	137	
Shale, sandy-----	25	162	
Sandstone-----	5	167	
Shale, soft-----	7	174	
Limestone-----	2	176	

Well 8/10W-25M1

Type of record: Driller's log.

Altitude: About 520 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, red and hardpan-----	25	25	
Pennsylvanian system:			
Middle series:			
Shale, blue-----	13	38	
Shale, soft, gray-----	12	50	
Shale, gray-----	18	68	
Shale, sandy, dark-----	14	82	
Limestone, hard-----	2	84	
Coal-----	2	86	W. B.
Fire clay-----	5	91	
Shale, gray-----	5	96	
Limestone-----	4	100	
Shale, sandy-----	30	130	
Sandstone, dark-----	15	145	W. B.
Sandstone, gray-----	18	163	W. B.
Shale, gray-----	4	167	
Limestone, hard-----	--	167	

Well 8/10W-26B1

Type of record: Driller's log.

Altitude: About 500 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	17	17	
Hardpan-----	3	20	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/10W-26P1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale-----	30	70	
Shale, sandy-----	6	76	
Shale-----	17	93	
Sandstone-----	3	96	
Shale-----	7	103	
Limestone-----	4	107	
Shale, sandy-----	33	140	
Sandstone-----	35	175	
Shale-----	13	188	

## Well 8/10W-26P2

Type of record: Driller's log.

Altitude: About 510 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Hardpan-----	22	40	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	21	61	
Limestone-----	3	64	
Shale, gray-----	9	73	
Sandstone, broken, and shale-----	30	103	W. B. 82 to 90 ft.
Shale, black-----	5	108	
Shale, gray-----	3	111	
Limestone-----	1	112	
Shale, sandy, gray-----	15	127	
Shale, dark-----	16	143	
Sandstone-----	49	192	
Shale, gray-----	2	194	
Limestone-----	--	194	

## Well 8/10W-26R1

Type of record: Driller's log.

Altitude: About 512 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	19	19	
Quicksand-----	20	39	
Muck, blue-----	9	48	
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	11	59	
Limestone, sandy-----	5	64	
Shale, gray-----	18	82	
Sandstone-----	8	90	
Slate-----	12	102	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/10W-26R1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Limestone-----	2	104	
Shale-----	21	125	
Shale, sandy-----	45	170	
Sandstone-----	6	176	W. B.
Slate, white-----	2	178	
Limestone-----	1	179	
Fire clay-----	1	180	
Limestone-----	6	186	
Shale, gray-----	6	192	
Red rock-----	3	195	
Limestone-----	2	197	
Shale, sandy-----	13	210	
Shale, gray-----	65	275	
Coal-----	3	278	
Slate-----	2	280	
Fire clay-----	2	282	
Shale, sandy-----	18	300	
Slate-----	10	310	
Slate, black-----	8	318	
Coal-----	4	322	
Shale-----	3	325	T. D. 814 ft.

## Well 8/10W-27J1

Type of record: Driller's log.

Altitude: About 501 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and sand-----	18	18	
Gravel-----	6	24	
Sand and shale-----	39	63	Clay (?)
Shale, sandy, and gravel-----	21	84	Clay (?)
Pennsylvanian system:			
Middle (?) series:			
Shale-----	3	87	
Sandstone, broken-----	23	110	
Coal-----	1	111	
Shale-----	9	120	
Limestone-----	2	122	
Shale, sandy-----	18	140	
Sandstone, shaly-----	15	155	
Sandstone-----	43	198	W. B.
Shale-----	5	203	
Limestone-----	3	206	
Shale-----	3	209	
Red rock-----	2	211	
Shale-----	6	217	
Limestone, sandy-----	6	223	T. D. 865 ft.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-27M1

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

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	
Hardpan-----	30	50	
Pennsylvanian system:			
Middle series:			
Shale, brown-----	19	69	
Shale, dark-----	5	74	W. B.
Shale, gray-----	31	105	
Limestone-----	3	108	
Shale, gray-----	5	113	
Sandstone-----	5	118	
Shale, gray-----	25	143	
Sandstone-----	2	145	
Slate, dark-----	6	151	
Limestone, sandy-----	10	161	
Shale, gray-----	5	166	
Sandstone-----	17	183	

Well 8/10W-27P1

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

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	17	17	
Hardpan and gravel-----	28	45	
Mud and gravel-----	32	77	
Pennsylvanian system:			
Middle series:			
Shale, black-----	21	98	
Limestone, hard-----	1	99	
Sandstone-----	4	103	W. B.
Limestone, hard-----	4	107	
Shale, sandy-----	19	126	

Well 8/10W-28K1

Type of record: Driller's log. Altitude: About 521 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	15	15	
Hardpan-----	23	38	
Sand and gravel-----	7	45	W. B.
Hardpan-----	18	63	
Shale, soft-----	12	75	Clay (?)
Boulders-----	4	79	
Shale, soft-----	11	90	Clay (?)
Boulders-----	3	93	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-28K1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, dark-----	7	100	
Shale, sandy-----	25	125	
Limestone, hard-----	3	128	W. B.
Shale, sandy, gray-----	42	170	
Slate, dark-----	13	183	
Shale, sandy, gray-----	17	200	
Shale, dark-----	10	210	
Shale, sandy-----	30	240	
Shale, soft, dark-----	5	245	
Shale, sandy-----	11	256	
Limestone, hard-----	5	261	
Shale, gray-----	3	264	
Red rock, cavey-----	5	269	
Limestone-----	3	272	
Shale, light-----	18	290	
Shale, dark-----	31	321	
Limestone, hard-----	2	323	
Limestone, sandy-----	22	345	
Slate, gray-----	6	351	
Coal-----	4	355	
Shale, gray-----	6	361	
Limestone-----	2	363	T. D. 851 ft.

Well 8/10W-28L1

Type of record: Driller's log.

Altitude: About 500 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand and gravel-----	30	30	
Pennsylvanian system:			
Middle series:			
Shale, blue-----	24	54	
Shale-----	16	70	
Coal-----	3	73	
Shale, white-----	22	95	
Limestone-----	3	98	
Shale, dark-----	42	140	
Coal-----	4	144	
Shale, white-----	6	150	
Shale-----	70	220	
Limestone, hard-----	4	224	
Shale, white-----	16	240	
Sandstone-----	15	255	
Coal-----	5	260	Gas
Shale, dark-----	20	280	
Sandstone-----	20	300	
Shale-----	20	320	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-28L1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Coal-----	5	325	Gas
Shale, white-----	20	345	
Shale, dark-----	15	360	
Coal-----	5	365	
Shale, dark-----	35	400	
Limestone, hard-----	4	404	
Coal-----	6	410	

Well 8/10W-28N1

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

Quaternary system:				
Recent and Pleistocene series:				
Clay, yellow-----	10	10	W. B.	
Sand and gravel-----	10	20		
Sand, soft-----	4	24		
Hardpan-----	20	44		
Pennsylvanian system:				
Middle series:				
Shale, dark-----	4	48		
Slate, blue, and coal-----	4	52		
Fire clay-----	10	62		

Well 8/10W-30J2

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

Quaternary system:				
Recent and Pleistocene series:				
Clay and hardpan-----	23	23		
Boulders and sand-----	3	26		
Pennsylvanian system:				
Middle series:				
Shale, soft-----	14	40		
Shale, solid, dark-----	13	53		
Limestone, hard-----	1	54		
Shale-----	2	56		

Well 8/10W-30M1

Type of record: Driller's log. Altitude: About 516 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand-----	60	60	
Hardpan-----	20	80	
Pennsylvanian system:			
Middle series:			
Shale, green-----	15	95	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-30M1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, dark-----	5	100	
Limestone-----	1	101	
Shale, dark-----	4	105	
Coal-----	1	106	
Fire clay-----	3	109	
Shale, gray-----	38	147	
Sandstone-----	13	160	
Shale-----	11	171	
Limestone-----	6	177	
Shale-----	5	182	
Limestone, sandy-----	28	210	
Shale, sandy-----	12	222	
Coal-----	1	223	
Limestone-----	15	238	
Shale, gray-----	57	295	
Limestone, sandy-----	5	300	
Shale, gray-----	2	302	
Limestone-----	7	309	
Shale, gray-----	3	312	
Red rock-----	3	315	
Shale, gray-----	9	324	
Limestone-----	2	326	
Shale, sandy-----	16	342	
Shale, dark-----	15	357	
Limestone, sandy-----	15	372	
Shale, dark-----	20	392	
Limestone-----	6	398	T. D. 887 ft.

Well 8/10W-30N1

Type of record: Driller's log.

Altitude: About 490 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and sand-----	22	22	
Sand-----	2	24	W. B.
Hardpan, gray-----	29	53	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	21	74	
Limestone, shell-----	2	76	
Shale and streaks of limestone---	10	86	
Limestone, sandy-----	6	92	
Limestone, broken-----	8	100	
Shale, light-----	12	112	
Coal-----	3	115	
Fire clay-----	5	120	
Limestone, broken-----	15	135	
Shale, dark-----	6	141	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-31H1

Type of record: Driller's log.

Altitude: About 540 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Soil and yellow sand-----	20	20	
Sand, dark-----	10	30	
Muck, blue, and sand-----	17	47	
Sand, gravel, and hardpan-----	11	58	
Sand-----	8	66	
Pennsylvanian system:			
Middle series:			
Shale-----	4	70	

Well 8/10W-31J1

Type of record: Driller's log.

Altitude: About 530 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	10	10	
Sand, runny-----	20	30	W. B.
Hardpan, gummy, blue-----	22	52	
Sand, coarse-----	4	56	W. B.
Pennsylvanian system:			
Middle series:			
Shale-----	20	76	

Well 8/10W-31L1

Type of record: Driller's log.

Altitude: About 490 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	36	36	
Mud, blue-----	8	44	
Mud, yellow-----	14	58	
Pennsylvanian system:			
Middle series:			
Slate, dark-----	25	83	
Limestone-----	2	85	
Shale, sandy-----	7	92	W. B.
Shale, gray-----	16	108	
Slate, dark-----	8	116	
Coal-----	2	118	
Fire clay-----	2	120	
Limestone, hard-----	3	123	
Sandstone, broken-----	12	135	W. B.
Shale, dark-----	16	151	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-31P1

Type of record: Driller's log.

Altitude: About 510 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand-----	25	25	
Hardpan-----	25	50	
Sand, soft, dark-----	25	75	
Pennsylvanian system:			
Middle series:			
Slate, black-----	1	76	
Limestone-----	1	77	
Sand or gravel-----	3	80	W. B.; Conglomerate or filled solu- tion opening (?)

Well 8/10W-32C1

Type of record: Driller's log.

Altitude: About 552 feet.

Quaternary system:			
Recent and Pleistocene series:			
Glacial till-----	18	18	
Gravel-----	3	21	
Pennsylvanian system:			
Middle (?) series:			
Shale, white-----	18.5	39.5	
Limestone, hard, gray-----	4.5	44	
Shale, black-----	2	46	
Coal-----	4	50	W. B.
Shale, light-----	25	75	
Shale, dark-----	5	80	
Shale, gray-----	13	93	
Limestone-----	2	95	
Shale, black-----	8	103	
Sandstone, broken, gray, and shale-----	12	115	
Shale, sticky, brown and gray----	15	130	
Shale, black-----	3	133	
Coal-----	3	136	Gas
Shale, gray-----	29	165	
Limestone, hard, gray-----	6	171	
Shale, gray-----	4	175	
Shale, gray, and sandstone-----	7	182	
Shale, gritty, gray-----	28	210	
Limestone, hard-----	1	211	
Coal-----	5	216	
Shale, light-----	9	225	
Sandstone, light, and shale-----	70	295	
Limestone, hard-----	5	300	
Shale, purple and gray-----	8	308	
Limestone, sandy-----	1	309	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/10W-32J1

Type of record: Driller's log.

Altitude: About 506 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface clay-----	15	15	
Hardpan-----	17	32	
Pennsylvanian system:			
Middle (?) series:			
Slate and coal-----	6	38	
Fire clay-----	3	41	
Shale, sandy-----	9	50	
Shale, gray-----	12	62	
Slate, dark-----	10	72	
Coal-----	2	74	Gas
Fire clay-----	3	77	
Shale, dark-----	40	117	
Limestone-----	5	122	
Shale, sandy-----	8	130	
Shale, dark-----	14	144	
Slate, dark-----	8	152	
Coal-----	4	156	
Shale, gray-----	8	164	
Limestone, hard-----	4	168	
Shale, gray-----	9	177	
Shale, sandy-----	25	202	
Sandstone-----	33	235	
Limestone, hard-----	6	241	
Shale and red rock-----	11	252	
Limestone-----	4	256	
Shale, gray-----	19	275	
Shale, sandy-----	35	310	
Shale, dark-----	35	345	
Shale, sandy-----	10	355	
Shale, gray-----	13	368	
Slate, dark-----	7	375	
Coal-----	5	380	Gas; T. D. 867 ft.

## Well 8/10W-33D1

Type of record: Driller's log.

Altitude: About 475 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	14	14	
Red rock-----	8	22	Clay (?)
Hardpan-----	58	80	
Pennsylvanian system:			
Middle (?) series:			
Limestone-----	15	95	
Sandstone-----	17	112	W. B.
Slate, dark-----	10	122	
Coal-----	2	124	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-33D1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Fire clay-----	2	126	
Limestone and sandstone-----	92	218	
Limestone, shell, hard-----	9	227	
Fire clay-----	2	229	
Red rock-----	9	238	
Limestone-----	6	244	
Fire clay-----	4	248	
Slate, dark-----	6	254	
Fire clay-----	6	260	
Slate, light-----	49	309	
Slate, dark-----	3	312	
Coal-----	1	313	
Fire clay-----	9	322	
Limestone-----	22	344	
Slate, dark-----	11	355	
Coal-----	3	358	
Slate, dark-----	6	364	
Slate, light-----	6	370	
Slate, dark-----	10	380	
Slate, light-----	10	390	
Slate, dark-----	6	396	
Coal-----	5	401	T. D. 788 ft.

Well 8/10W-33G2

Type of record: Driller's log.

Altitude: About 474 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	11	11	
Hardpan-----	22	33	
Shale, green-----	13	46	Clay (?)
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	17	63	
Limestone, sandy, medium-hard----	5	68	
Shale, gray-----	15	83	
Coal and black shale-----	1	84	
Shale, dark-----	9	93	
Limestone, sandy-----	23	116	
Shale, blue-----	2	118	
Limestone, sandy-----	8	126	
Limestone-----	7	133	
Sandstone-----	19	152	
Limestone, sandy-----	25	177	
Limestone, hard, brown-----	7	184	
Shale, blue-----	6	190	
Red rock-----	3	193	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/10-33G2--Continued

Materials	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, dark-gray-----	12	205	
Shale and limestone-----	14	219	
Shale, dark-----	28	247	
Shale, sandy-----	14	261	
Shale, dark-----	18	279	
Coal-----	2	281	
Fire clay-----	7	288	
Limestone-----	7	295	
Shale and limestone-----	2	297	
Fire clay-----	3	300	
Shale, sandy-----	5	305	
Shale, gray-----	5	310	
Shale, dark-----	15	325	
Coal-----	4	329	Gas
Shale, dark-----	16	345	
Fire clay-----	12	357	
Coal-----	9	366	
Slate, gray-----	9	375	
Limestone, hard, dark-gray-----	2	377	
Coal-----	5	382	
Shale, gray-----	26	408	T. D. 758 ft.

## Well 8/10-33K1

Type of record: Driller's log.

Altitude: About 495 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	23	23	
Shale, sandy, and hardpan-----	47	70	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	27	97	
Coal-----	1	98	
Limestone, sandy-----	2	100	
Sandstone-----	92	192	W. B.

## Well 8/10W-33K2

Type of record: Driller's log.

Altitude: About 493 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	23	23	
Gravel-----	2	25	
Hardpan-----	29	54	
Sand and gravel-----	13	67	
Pennsylvanian system:			
Middle (?) series:			
Shale, sandy-----	25	92	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/10W-33K2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, dark-----	8	100	
Coal-----	2	102	
Fire clay-----	6	108	
Limestone-----	3	111	
Sandstone-----	87	198	W. B.
Shale, gray, and limestone-----	6	204	
Shale-----	2	206	
Limestone, hard-----	4	210	
Shale, gray-----	25	235	
Shale, sandy-----	27	262	
Limestone, sandy-----	8	270	
Shale, sandy-----	3	273	
Shale, light-----	12	285	
Coal-----	4	289	
Shale, light-----	6	295	
Limestone, sandy-----	24	319	
Shale, dark-----	12	331	
Coal-----	4	335	Gas
Shale, dark-----	12	347	
Shale, light-----	29	376	
Shale, dark-----	8	384	
Limestone, black-----	5	389	
Coal-----	3	392	Gas
Shale, dark-----	8	400	T. D. 786 ft.

## Well 8/10W-33L1

Type of record: Driller's log.

Altitude: About 500 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	17	17	
Hardpan-----	28	45	
Pennsylvanian system:			
Middle series:			
Shale, light-----	27	72	
Shale, dark-----	12	84	
Limestone, hard-----	2	86	
Shale, soft, dark-----	6	92	
Shale, light-----	3	95	
Limestone, hard-----	4	99	
Sandstone, light-----	31	130	W. B.
Shale, dark-----	14	144	
Limestone-----	3	147	
Shale, dark-----	9	156	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-33L4

Type of record: Driller's log.

Altitude: About 500 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Soil-----	8	8	
Clay, yellow-----	17	25	
Hardpan and gray sand-----	17	42	
Shale, muddy, yellow-----	5	47	Clay (?)
Pennsylvanian system:			
Middle series:			
Coal, soft-----	3	50	W. B.
Fire clay, soft-----	2	52	
Shale, gray-----	29	81	
Shale, hard, sandy-----	6	87	
Shale, dark-----	4	91	
Shale, sandy-----	2	93	
Sandstone-----	29	122	
Shale, dark-----	10	132	

Well 8/10W-33N2

Type of record: Driller's log.

Altitude: About 493 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Quicksand-----	18	33	W. B.
Gravel-----	7	40	W. B.
Pennsylvanian system:			
Middle (?) series:			
Shale, blue-----	25	65	
Coal-----	2	67	
Limestone and sandstone-----	21	88	
Shale, blue-----	7	95	
Shale, green-----	20	115	
Sandstone-----	30	145	
Coal-----	2	147	
Limestone-----	4	151	
Shale, sandy, gray-----	20	171	
Shale, gray-----	5	176	
Limestone, sandy-----	9	185	
Sandstone-----	50	235	W. B. 185 to 190 ft.
Shale, gray-----	3	238	
Limestone-----	7	245	
Shale, red-----	4	249	
Limestone-----	19	268	
Coal-----	2	270	
Shale-----	3	273	
Limestone-----	4	277	
Shale-----	7	284	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/10W-33N2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale-----	14	298	
Limestone-----	16	314	
Shale-----	14	328	
Slate-----	2	330	
Coal-----	6	336	
Shale, sandy, gray-----	8	344	
Limestone-----	16	360	
Shale, sandy, gray-----	27	387	
Coal-----	4	391	Gas; T. D. 1,750 ft.

## Well 8/10W-34A1

Type of record: Driller's log.

Altitude: About 490 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	16	16	
Sand and gravel-----	9	25	
Pennsylvanian system:			
Middle (?) series:			
Shale, sandy-----	15	40	
Shale, muddy-----	22	62	
Limestone-----	2	64	
Sandstone-----	6	70	W. B.
Shale, sandy-----	34	104	
Coal-----	2	106	
Shale, gray-----	8	114	
Limestone, gray-----	4	118	
Shale, gray-----	5	123	
Shale, sandy-----	7	130	
Sandstone-----	44	174	
Shale, gray-----	5	179	
Sandstone-----	8	187	
Shale, gray-----	3	190	
Limestone-----	2	192	
Shale, gray-----	1	193	
Limestone, brown-----	4	197	
Shale, gray-----	5	202	
Limestone-----	2	204	
Sandstone-----	8	212	
Red rock-----	2	214	
Shale-----	28	242	
Sandstone-----	28	270	
Shale-----	18	288	
Coal-----	3	291	
Shale, gray-----	17	308	
Sandstone-----	7	315	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/10W-34A1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	16	331	
Coal-----	6	337	
Shale, gray-----	30	367	
Coal-----	3	370	
Shale, dark-----	10	380	
Limestone-----	5	385	
Slate and coal-----	3	388	T. D. 829 ft.

## Well 8/10W-34G1

Type of record: Driller's log.

Altitude: About 480 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Sand, soft-----	5	20	
Shale, green-----	10	30	Clay (?)
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	8	38	
Sandstone, broken, and shale-----	34	72	W. B.
Sandstone, firm-----	6	78	
Slate and coal-----	1	79	
Shale, gray-----	9	88	
Sandstone, broken-----	12	100	
Sandstone-----	7	107	W. B.
Limestone, sandy-----	4	111	
Sandstone, broken-----	11	122	
Sandstone, firm-----	6	128	
Sandstone-----	19	147	
Shale, sandy-----	16	163	
Sandstone-----	6	169	
Shale, sandy-----	4	173	
Limestone-----	4	177	
Shale, gray and green-----	8	185	
Limestone and sandstone-----	8	193	
Sandstone, broken-----	4	197	
Shale, sandy-----	10	207	
Coal-----	2	209	Gas
Shale, gray-----	21	230	
Shale, sandy, gray-----	15	245	
Shale, dark-gray-----	17	262	
Coal-----	2	264	
Shale, gray-----	7	271	
Limestone, sandy-----	10	281	
Shale, sandy-----	19	300	
Shale, dark-----	6	306	
Coal-----	6	312	Gas

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-34G1--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	7	319	
Coal-----	1	320	
Shale, gray-----	20	340	
Shale, sandy, and limestone-----	7	347	
Shale, sandy-----	7	354	
Limestone-----	5	359	
Coal-----	3	362	
Shale, gray-----	69	431	T. D. 816 ft.

## Well 8/10W-34J1

Type of record: Driller's log.

Altitude: About 500 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	4	4	
Hardpan-----	21	25	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	15	40	
Shale, sandy-----	28	68	
Sandstone, dark-----	10	78	W. B.
Slate, black, and coal-----	7	85	
Shale, gray-----	7	92	
Shale, sandy-----	30	122	
Slate, dark-----	2	124	
Sandstone, dark-----	11	135	
Sandstone, gray-----	14	149	W. B.

## Well 8/10W-34K1

Type of record: Driller's log.

Altitude: About 500 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Sand and gravel-----	10	25	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	32	57	
Sandstone-----	8	65	
Shale, sandy-----	23	88	
Sandstone-----	10	98	W. B.
Shale, gray-----	4	102	
Coal-----	2	104	
Shale, gray-----	21	125	
Sandstone-----	50	175	
Sandstone, broken-----	17	192	
Limestone-----	4	196	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-34K1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, gray-----	9	205	
Sandstone-----	9	214	
Shale, gray-----	33	247	
Sandstone-----	5	252	
Shale, gray-----	8	260	
Sandstone, broken-----	10	270	
Shale, gray-----	9	279	
Coal-----	3	282	
Shale, light-----	8	290	
Sandstone, broken-----	25	315	
Shale, dark-----	11	326	
Coal-----	5	331	Gas
Shale, sandy-----	32	363	
Coal-----	2	365	
Shale, sandy-----	3	368	
Limestone, sandy-----	4	372	
Shale, black-----	2	374	
Limestone-----	4	378	
Coal-----	2	380	T. D. 860 ft.

Well 8/10W-34M1

Type of record: Driller's log.

Altitude: About 480 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Hardpan-----	16	34	
Sand-----	1	35	
Gumbo-----	11	46	
Shale, sandy, soft-----	10	56	Clay (?)
Pennsylvanian system:			
Middle series:			
Sandstone-----	19	75	W. B.
Shale, sandy, dark-----	3	78	
Coal-----	3	81	
Fire clay-----	4	85	
Limestone, hard-----	6	91	
Limestone, sandy-----	19	110	
Sandstone-----	5	115	W. B.
Shale, sandy, dark-----	3	118	

Well 8/10W-34M2

Type of record: Driller's log.

Altitude: About 490 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	15	15	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-34M2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand and gravel-----	67	82	
Pennsylvanian system:			
Middle series:			
Sandstone-----	8	90	W. B.
Shale, dark-----	9	99	
Coal-----	1	100	
Fire clay-----	3	103	
Shale, dark-----	7	110	
Limestone, hard-----	4	114	W. B.
Shale, gray-----	3	117	
Limestone, hard-----	2	119	
Shale, sandy-----	6	125	
Sandstone-----	6	131	W. B.

Well 8/10W-34P1

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

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	15	15	
Hardpan-----	20	35	
Pennsylvanian system:			
Middle series:			
Slate, muddy-----	32	67	
Limestone-----	8	75	W. B.
Limestone, sandy-----	31	106	

Well 8/10W-34Q1

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

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	15	15	
Hardpan-----	20	35	
Pennsylvanian system:			
Middle series:			
Slate, muddy-----	19	54	
Shale, gray-----	13	67	
Limestone, hard-----	4	71	W. B.
Shale, sandy-----	34	105	
Slate, black-----	5	110	
Coal-----	1	111	
Fire clay-----	4	115	
Shale, sandy-----	15	130	
Sandstone-----	50	180	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/10W-35D2

Type of record: Driller's log.

Altitude: About 519 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Hardpan and gravel-----	10	25	
Pennsylvanian system:			
Middle (?) series:			
Shale, dark-----	34	59	
Limestone-----	1	60	
Shale, dark-----	10	70	
Shale, gray-----	18	88	
Shale, sandy-----	12	100	
Slate, dark-----	5	105	
Coal-----	2	107	
Fire clay-----	5	112	
Shale, dark-----	41	153	
Shale, sandy-----	7	160	
Sandstone-----	15	175	W. B.
Shale, gray-----	9	184	
Limestone-----	1	185	
Shale, gray-----	3	188	
Limestone-----	4	192	
Shale, gray-----	68	260	
Shale, dark-----	19	279	
Coal-----	2	281	
Shale, gray-----	22	303	
Shale, sandy, dark-----	4	307	
Shale, dark-----	5	312	
Limestone, brown-----	6	318	
Coal-----	2	320	
Shale, dark-----	10	330	
Shale, gray-----	10	340	
Shale, dark-----	4	344	
Coal-----	3	347	
Shale, sandy-----	5	352	
Limestone, black-----	10	362	
Limestone, brown-----	7	369	
Shale, gray-----	6	375	
Limestone, sandy-----	9	384	T. D. 786 ft.

## Well 8/10W-35F1

Type of record: Driller's log.

Altitude: About 510 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	10	10	
Hardpan-----	31	41	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	13	54	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/10W-35F1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	28	82	
Shale, dark-----	13	95	
Coal-----	3	98	W. B.
Fire clay, soft-----	10	108	
Shale, dark-----	17	125	
Sandstone-----	50	175	W. B.

## Well 8/10W-35F2

Type of record: Driller's log.

Altitude: About 510 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	16	16	
Hardpan-----	22	38	
Pennsylvanian system:			
Middle series:			
Shale, light-----	7	45	
Shale, dark-----	15	60	
Limestone, shaly, broken-----	25	85	
Sandstone-----	10	95	
Shale, sandy-----	9	104	
Coal-----	1	105	
Shale, gray-----	40	145	
Sandstone-----	39	184	

## Well 8/10W-35J1

Type of record: Driller's log.

Altitude: About 524 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	15	15	
Mud, blue-----	15	30	
Pennsylvanian system:			
Middle (?) series:			
Limestone, brown-----	4	34	
Shale, gray-----	16	50	
Shale, black-----	8	58	
Shale, gray-----	7	65	
Sandstone-----	5	70	
Shale, gray-----	14	84	
Coal-----	12	96	
Shale, gray-----	19	115	
Shale, sandy-----	5	120	
Sandstone-----	8	128	
Shale, sandy-----	37	165	
Slate, white-----	18	183	
Limestone-----	1	184	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-35J1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	2	186	
Limestone-----	5	191	
Shale, gray-----	51	242	
Limestone-----	2	244	
Sandstone-----	4	248	
Shale, gray-----	29	277	
Coal-----	4	281	
Shale, gray-----	44	325	
Coal-----	4	329	
Shale, gray-----	9	338	
Slate, white-----	24	362	
Coal-----	3	365	
Shale, white-----	3	368	
Limestone-----	5	373	
Shale, dark-----	5	378	T. D. 830 ft.

Well 8/10W-35P1

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	20	20	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	65	85	
Sandstone-----	25	110	
Coal-----	2	112	
Shale-----	24	136	
Sandstone-----	54	190	W. B.
Limestone-----	3	193	
Shale-----	5	198	
Limestone-----	4	202	
Shale-----	10	212	
Sandstone-----	6	218	
Shale-----	68	286	
Coal-----	2	288	
Shale-----	8	296	
Sandstone-----	14	310	T. D. 824 ft.

Well 8/10W-36E1

Type of record: Driller's log.

Altitude: About 535 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	20	20	
Shale, muddy, blue-----	47	67	Clay (?)

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-36E1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Limestone-----	4	71	
Shale-----	42	113	
Coal-----	2	115	
Shale-----	12	127	
Sandstone-----	58	185	
Shale-----	21	206	
Shale, muddy-----	4	210	
Red rock-----	3	213	
Shale, gray-----	32	245	
Sandstone-----	30	275	Gas
Shale-----	13	288	
Coal-----	3	291	
Shale-----	36	327	
Limestone-----	1	328	
Shale-----	4	332	
Coal-----	4	336	
Shale-----	33	369	
Coal-----	3	372	
Sandstone-----	5	377	
Limestone-----	3	380	
Coal-----	5	385	T. D. 833 ft.

Well 8/10W-36G1

Type of record: Driller's log.		Altitude: About 540 feet.	
Record missing-----	39	39	
Pennsylvanian system:			
Middle (?) series:			
Shale, light-----	20	59	
Limestone, broken-----	4	63	W. B.
Shale, dark-----	10	73	
Limestone-----	3	76	
Shale, light-----	26	102	
Shale, sandy-----	13	115	
Slate, black-----	5	120	
Shale, light-----	28	148	
Sandstone, light-----	45	193	W. B. 160 and 190 ft.
Shale, dark-----	4	197	

Well 8/10W-36H1

Type of record: Driller's log.		Altitude: About 530 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	15	15	
Clay and gravel-----	5	20	W. B.
Clay, yellow-----	10	30	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/10W-36H1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	45	75	
Sandstone-----	10	85	
Shale, gray-----	5	90	
Limestone-----	3	93	
Shale, gray-----	19	112	
Sandstone-----	20	132	W. B.
Limestone-----	4	136	
Sandstone-----	39	175	W. B.
Shale, gray-----	7	182	
Limestone-----	5	187	
Shale, gray-----	53	240	
Sandstone-----	13	253	
Shale, sandy, gray-----	29	282	
Coal-----	2	284	
Shale, gray-----	4	288	
Limestone-----	1	289	
Sandstone-----	16	305	
Shale, gray-----	15	320	
Shale, black, and coal-----	6	326	
Shale-----	34	360	
Sandstone, broken-----	10	370	
Slate, black, and coal-----	5	375	T. D. 892 ft.

Well 8/10W-36M1

Type of record: Driller's log.

Altitude: About 550 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	18	18	
Hardpan-----	9	27	
Pennsylvanian system:			
Middle (?) series:			
Shale, gray-----	11	38	
Slate, dark-----	6	44	
Coal-----	2	46	
Fire clay-----	3	49	
Shale, sandy-----	9	58	
Shale, dark-----	20	78	
Shale, sandy-----	40	118	
Slate, dark-----	5	123	
Coal-----	2	125	
Fire clay-----	3	128	
Shale, dark-----	10	138	
Sandstone-----	32	170	W. B.
Sandstone, white-----	30	200	W. B.
Shale, gray-----	3	203	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/11W-1K1

Type of record: Driller's log.

Altitude: About 470 feet.

Material	Thick-ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	17	17	Clay (?)
Hardpan-----	13	30	
Shale, sandy-----	13	43	
Gravel-----	3	46	
Sand and soft shale-----	29	75	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	15	90	

Well 8/11W-2K1

Type of record: Driller's log.

Altitude: About 520 feet.

Material	Thick-ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	W. B. Clay (?)
Sand-----	15	30	
Shale, green-----	4	34	
Pennsylvanian system:			
Middle (?) series:			
Limestone-----	4	38	W. B.
Shale, dark-----	6	44	
Coal-----	1	45	
Fire clay-----	2	47	
Limestone-----	3	50	
Shale, gray-----	20	70	
Shale, dark-----	30	100	
Limestone-----	1	101	
Coal-----	1	102	
Fire clay-----	4	106	
Limestone, sandy-----	17	123	
Shale, gray-----	5	128	
Limestone, sandy, brown-----	3	131	
Shale, gray-----	8	139	
Shale, dark-----	4	143	
Coal-----	2	145	
Shale, gray-----	27	172	
Limestone-----	4	176	
Shale, gray-----	9	185	
Shale, sandy-----	10	195	
Shale, dark-----	15	210	

Well 8/11W-10G1

Type of record: Driller's log.

Altitude: About 434 feet.

Material	Thick-ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Gumbo-----	4	4	W. B.
Gravel and sand-----	92	96	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/11W-10G1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Sandstone, gray-----	4	100	
Mud, light-brown-----	20	120	
Shale, dark-----	15	135	
Slate, black-----	20	155	
Sandstone, gray, and limestone--	10	165	
Sandstone-----	5	170	
Shale, gray-----	55	225	
Limestone, brown-----	10	235	
Red rock and limestone-----	10	245	
Sandstone, gray-----	10	255	
Shale, sandy-----	15	270	
Sandstone and shale-----	10	280	
Sandstone, gray-----	25	305	
Shale, gray-----	15	320	
Coal-----	5	325	
Sandstone-----	5	330	
Sandstone, gray-----	30	360	
Shale, gray-----	5	365	
Coal-----	5	370	
Shale, gray, and mud-----	35	405	T. D. 2,773 ft.

## Well 8/11W-11J1

Type of record: Driller's log.

Altitude: About 490 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	25	25	
Hardpan-----	39	64	
Shale-----	11	75	Clay (?)
Hardpan-----	5	80	
Shale, yellow-----	25	105	Do
Gravel-----	1	106	

## Well 8/11W-12C1

Type of record: Driller's log.

Altitude: About 500 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Shale, gray-----	22	40	Clay (?)
Shale, green-----	48	88	Do
Shale, sandy-----	2	90	Do
Sand-----	2	92	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/11W-12G1

Type of record: Driller's log.

Altitude: About 480 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Gravel, coarse-----	34	34	
Sand and gravel-----	12	46	W. B.
Pennsylvanian system:			
Middle series:			
Slate, black-----	2	48	
Fire clay-----	4	52	
Shale, light-----	11	63	

Well 8/11W-12G2

Type of record: Driller's log.

Altitude: About 490 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface and soft mud-----	18	18	
Sand and gravel-----	52	70	
Pennsylvanian system:			
Middle series:			
Coal-----	2	72	
Shale, gray-----	9	81	
Shale, dark-----	14	95	
Limestone, hard-----	6	101	W. B.
Shale, light-----	4	105	
Shale, gray-----	5	110	
Shale, sandy-----	8	118	
Slate, dark-----	26	144	
Coal-----	4	148	W. B.
Fire clay-----	7	155	

Well 8/11W-14F1

Type of record: Driller's log.

Altitude: About 450 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Gravel and sand-----	23	23	
Gravel-----	10	33	W. B.
Pennsylvanian system:			
Middle series:			
Shale, dark-----	7	40	
Sandstone-----	10	50	W. B.
Fire clay-----	4	54	
Shale, sandy-----	9	63	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/11W-14H1

Type of record: Driller's log.

Altitude: About 480 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand-----	15	15	
Sand and gravel-----	15	30	
Clay, soft, sandy-----	12	42	
Gravel-----	4	46	
Pennsylvanian system:			
Middle series:			
Shale, soft-----	33	79	
Coal-----	1	80	
Shale-----	10	90	
Limestone-----	--	90	

Well 8/11W-14K1

Type of record: Driller's log.

Altitude: About 480 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand and gravel-----	50	50	
Shale, soft-----	50	100	Clay (?)
Sand-----	--	100	W. B.

Well 8/11W-14L1

Type of record: Driller's log.

Altitude: About 450 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, red, and sand-----	15	15	
Sand and gravel-----	5	20	
Hardpan-----	30	50	
Mud, soft, and gravel-----	40	90	
Sand and gravel-----	10	100	W. B.

Well 8/11W-23G1

Type of record: Driller's log.

Altitude: About 460 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Gravel-----	35	35	
Sand, red-----	5	40	W. B.
Pennsylvanian system:			
Middle series:			
Shale-----	5	45	
Limestone-----	--	45	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/11W-23G2

Type of record: Driller's log.

Altitude: About 445 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand and gravel-----	25	25	
Hardpan-----	5	30	
Pennsylvanian system:			
Middle (?) series:			
Shale, sandy, soft-----	20	50	
Sandstone-----	4	54	

Well 8/11W-23H1

Type of record: Driller's log.

Altitude: About 442 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Gravel, sandy-----	50	50	
Pennsylvanian system:			
Middle (?) series:			
Shale-----	25	75	
Coal-----	2	77	
Shale, gray-----	13	90	
Shale, dark-----	25	115	
Shale, sandy-----	15	130	
Shale, dark-----	25	155	
Coal-----	2	157	
Shale, gray-----	3	160	
Sandstone-----	23	183	
Shale, dark-----	56	239	
Limestone-----	4	243	
Shale, gray-----	2	245	
Red rock-----	3	248	
Shale, gray-----	8	256	
Limestone-----	2	258	
Shale, gray-----	17	275	
Sandstone-----	25	300	
Shale, gray-----	32	332	
Coal-----	3	335	
Shale, gray-----	10	345	
Sandstone-----	13	358	
Shale, gray-----	25	383	
Coal-----	2	385	
Shale, gray-----	10	395	T. D. 2,783 ft.

Well 8/11W-23J1

Type of record: Driller's log.

Altitude: About 465 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface and sand-----	10	10	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/11W-23J1--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Coal-----	2	12	
Shale, gray-----	4	16	
Limestone-----	4	20	W. B.
Shale, gray-----	20	40	
Shale, dark-----	18	58	
Coal-----	2	60	
Shale, gray-----	7	67	
Sandstone-----	3	70	W. B.
Shale, sandy-----	26	96	
Coal-----	2	98	
Shale, sandy, gray-----	24	122	
Shale, dark-----	8	130	
Shale, sandy-----	20	150	

## Well 8/11W-23K1

Type of record: Driller's log.

Altitude: About 445 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	13	13	
Gravel-----	1	14	
Pennsylvanian system:			
Middle (?) series:			
Shale-----	29	43	W. B.
Sandstone-----	12	55	

## Well 8/11W-24B1

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	20	20	
Pennsylvanian system:			
Upper series:			
Sandstone-----	24	44	W. B.
Middle series:			
Limestone, hard-----	6	50	
Shale, soft-----	1	51	
Limestone, hard-----	3	54	
Shale, light-----	7	61	
Limestone, hard-----	3	64	
Slate, blue-----	5	69	
Coal-----	2	71	
Shale, light-----	6	77	
Limestone, hard-----	3	80	
Shale, light-----	2	82	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 8/11W-24D2

Type of record: Driller's log.

Altitude: About 530 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Fill, soft-----	26	26	
Hardpan, hard, yellow-----	16	42	
Boulders-----	4	46	W. B.
Hardpan, gray-----	14	60	
Pennsylvanian system:			
Middle series:			
Shale, light, and coal-----	4	64	

Well 8/11W-24D3

Type of record: Driller's log.

Altitude: About 525 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	20	20	
Hardpan-----	49	69	
Pennsylvanian system:			
Middle series:			
Limestone, hard-----	1	70	
Shale, sandy-----	12	82	
Shale, dark-----	28	110	
Limestone-----	1	111	
Slate, dark-----	4	115	
Coal-----	2	117	
Fire clay-----	3	120	
Limestone, sandy-----	24	144	
Shale, light-----	6	150	
Coal-----	3	153	
Fire clay-----	7	160	
Limestone, sandy-----	15	175	
Shale, light-----	8	183	
Limestone-----	1	184	
Shale, light-----	27	211	

Well 8/11W-24L1

Type of record: Driller's log.

Altitude: About 500 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Soft formation, red-----	41	41	
Pennsylvanian system:			
Middle series:			
Limestone, hard-----	4	45	
Shale, dark-----	5	50	
Coal-----	2	52	W. B.
Shale, light-----	6	58	
Sandstone and limestone-----	12	70	W. B.

Table 2.--Selected well log, Sullivan County, Indiana--Continued

## Well 8/11W-24L1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, light-----	15	85	
Sandstone-----	10	95	W. B.
Shale, dark-----	7	102	

## Well 8/11W-24M1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	
Shale, green-----	20	40	Clay (?)
Pennsylvanian system:			
Middle series:			
Shale, gray-----	8	48	
Limestone-----	3	51	
Shale, dark-----	3	54	
Coal-----	2	56	
Shale, gray-----	3	59	
Limestone, sandy-----	8	67	W. B.
Shale, gray-----	8	75	
Shale, dark-----	35	110	
Sandstone-----	10	120	
Shale-----	2	122	

## Well 8/11W-24P1

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

Quaternary system:			
Recent and Pleistocene series:			
Gravel and sand, red-----	35	35	
Hardpan-----	5	40	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	13	53	Trace of coal at 50 ft.
Shale, gray-----	8	61	
Limestone, hard-----	3	64	W. B.
Shale, dark-----	7	71	
Coal-----	2	73	
Fire clay-----	6	79	
Limestone-----	2	81	

## Well 8/11W-25D1

Type of record: Driller's log. Altitude: About 480 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand-----	20	20	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 8/11W-25D1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Shale, soft, green-----	17	37	Clay (?)
Pennsylvanian system:			
Middle series:			
Coal-----	2	39	
Shale, gray-----	8	47	
Limestone-----	5	52	
Shale, gray-----	8	60	

## Well 8/11W-25H1

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

Quaternary system:			
Recent and Pleistocene series:			
Sand, red-----	20	20	
Sand, gray-----	11	31	
Sand, brown-----	3	34	W. B.
Hardpan-----	11	45	
Pennsylvanian system:			
Upper (?) series:			
Shale, gray-----	26	71	
Sandstone-----	4	75	W. B.
Middle series:			
Limestone-----	3	78	W. B.
Slate, blue-----	2	80	
Coal-----	2	82	
Shale, sandy-----	5	87	

## Well 8/11W-36G1

Type of record: Driller's log. Altitude: About 449 feet.

Quaternary system:			
Recent and Pleistocene series:			
Loam, black-----	4	4	
Clay, yellow-----	4	8	
Sand-----	13	21	
Gravel-----	2	23	
Pennsylvanian system:			
Middle series:			
Shale, blue-----	12	35	
Shale, light-----	5	40	
Sandstone-----	10	50	
Shale, gray-----	22	72	
Coal-----	2	74	
Shale, gray-----	56	130	
Shale, sandy-----	10	140	
Shale, gray-----	15	155	
Shale, dark-----	7	162	
Sandstone, broken-----	56	218	T. D. 1,810 ft.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/8W-1D1

Type of record: Driller's log.

Altitude: About 615 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Clay, sandy-----	10	25	
Pennsylvanian system:			
Middle series:			
Shale-----	8	33	
Sandstone-----	7	40	
Shale-----	56	96	
Slate, dark-----	6	102	
Limestone-----	2	104	
Slate, black-----	6	110	
Shale, gray-----	4	114	
Sandstone, white-----	36	150	W. B.

Well 9/8W-2H1

Type of record: Driller's log.

Altitude: About 605 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface-----	22	22	
Pennsylvanian system:			
Middle series:			
Sandstone, yellow-----	8	30	
Shale, gray, or slate-----	65	95	
Coal-----	2	97	
Fire clay-----	1	98	
Sandstone-----	62	160	W. B.
Coal-----	1	161	

Well 9/8W-2M1

Type of record: Driller's log.

Altitude: About 570 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	20	20	
Hardpan-----	20	40	
Shale, soft-----	20	60	Clay (?)
Shale, green-----	10	70	Do
Pennsylvanian system:			
Middle series:			
Shale, soft, dark-----	10	80	
Shale, coarse-----	15	95	
Sandstone, white-----	40	135	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/8W-3N1

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

Material	Thick-ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface-----	14	14	
Hardpan-----	3	17	
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	5.5	22.5	
Sandstone-----	19.5	42	
Shale, gray-----	85	127	
Slate, black-----	5	132	
Coal-----	2	134	
Fire clay-----	5	139	
Sandstone-----	37	176	W. B.
Shale, gray-----	1.5	177.5	
Coal-----	.5	178	

Well 9/8W-4H1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, red-----	18	18	
Boulders-----	3	21	
Pennsylvanian system:			
Middle series:			
Slate and coal-----	4	25	
Limestone, hard-----	2	27	
Shale, soft-----	5	32	
Limestone, hard-----	2	34	
Slate, dark-----	8	42	
Shale, gray-----	5	47	
Shale, sandy-----	45	92	
Shale, dark-----	35	127	
Limestone, hard-----	1	128	
Coal-----	5	133	
Fire clay-----	4	137	
Shale, gray-----	5	142	
Sandstone, white-----	36	178	W. B.

Well 9/8W-5N1

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

Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	20	20	
Hardpan-----	7	27	
Pennsylvanian system:			
Middle series:			
Sandstone, yellow-----	11	38	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/8W-5N1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Sandstone, gray-----	10	48	
Shale, gray-----	27	75	
Coal-----	5	80	W. B.; mine opening
Fire clay-----	5	85	
Limestone, hard-----	4	89	
Shale, sandy-----	10	99	
Limestone, hard-----	3	102	
Shale, sandy-----	8	110	
Shale, gray-----	12	122	
Slate, dark-----	5	127	
Coal-----	4	131	
Shale, gray-----	11	142	
Slate, coal-----	6	148	
Limestone-----	3	151	
Shale, sandy-----	24	175	
Sandstone-----	4	179	W. B.
Shale, sandy-----	49	228	
Shale, gray-----	30	258	
Limestone, hard-----	2	260	
Coal-----	3	263	
Fire clay-----	4	267	
Shale, gray-----	18	285	
Coal-----	4	289	
Shale, dark-----	7	296	
Shale, sandy-----	12	308	

Well 9/8W-5N2

Type of record: Driller's log.

Altitude: About 580 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	67	67	
Pennsylvanian system:			
Middle series:			
Sandstone-----	5	72	W. B.
Slate, gray-----	14	86	
Coal-----	5	91	
Fire clay and shale-----	7	98	
Limestone, hard-----	5	103	W. B.
Shale, gray-----	10	113	
Limestone, hard-----	2	115	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/8W-5N3

Type of record: Driller's log.

Altitude: About 580 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Hardpan-----	30	45	
Pennsylvanian system:			
Middle series:			
Shale-----	20	65	
Sandstone, broken-----	10	75	Mine water
Shale, dark-----	5	80	
Shale, gray-----	6	86	
Coal-----	4	90	
Fire clay-----	3	93	
Shale, gray-----	4	97	
Limestone-----	4	101	
Shale, gray-----	9	110	
Limestone-----	2	112	
Coal, trace-----	--	112	
Shale, gray-----	30	142	
Slate, black-----	5	147	
Shale, gray-----	5	152	
Sandstone-----	7	159	
Limestone, hard-----	4	163	
Slate, black-----	5	168	
Shale, sandy, broken-----	2	170	Salt water
Shale, sandy-----	40	210	
Shale, gray-----	54	264	
Slate, black-----	8	272	
Shale, light, and limestone streaks-----	18	290	
Slate, black-----	3	293	
Shale, sandy, dark-----	15	308	
Slate, black, and shale-----	10	318	
Sandstone, gray-----	35	353	W. B.
Shale, dark-----	--	353	

Well 9/8W-5P1

Type of record: Driller's log.

Altitude: About 575 feet.

Quaternary system:		
Recent and Pleistocene series:		
Clay, yellow-----	18	18
Hardpan-----	17	35
Clay and shale, soft-----	25	60
Pennsylvanian system:		
Middle series:		
Shale, gray-----	14	74
Shale, dark, and coal-----	7	81
Fire clay-----	4	85

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 9/8W-5P1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Slate, gray-----	9	94	
Coal-----	1	95	
Shale, sandy-----	6	101	
Limestone, hard-----	4	105	
Shale, gray-----	5	110	
Limestone-----	8	118	
Slate, gray-----	7	125	
Limestone-----	2	127	
Shale, dark-----	38	165	
Sandstone-----	10	175	W. B.
Shale, gray-----	25	200	

## Well 9/8W-6J1

Type of record: Driller's log.

Altitude: About 585 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	15	15	
Hardpan-----	7	22	
Pennsylvanian system:			
Middle series:			
Sandstone-----	55	77	W. B.
Slate, gray-----	17	94	
Coal-----	4	98	
Fire clay-----	4	102	
Shale, dark-----	6	108	
Limestone, brown-----	12	120	W. B.
Shale, gray-----	8	128	

## Well 9/8W-8D1

Type of record: Driller's log.

Altitude: About 575 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	48	48	
Pennsylvanian system:			
Middle series:			
Sandstone-----	5	53	
Shale, sandy-----	15	68	
Slate, gray-----	16	84	
Coal-----	5	89	
Fire clay-----	6	95	
Limestone, hard-----	6	101	
Shale, dark-----	9	110	
Limestone, hard-----	2	112	
Coal-----	2	114	
Shale, dark-----	18	132	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 9/8W-9L1

Type of record: Driller's log.

Altitude: About 505 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand and drift-----	25	25	
Shale-----	5	30	Clay (?)
Gravel-----	10	40	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	50	90	
Coal-----	3	93	
Shale, gray-----	8	101	
Sandstone-----	49	150	
Shale, dark-----	25	175	
Slate-----	5	180	
Shale, gray-----	6	186	
Sandstone, brown, and shale-----	12	198	
Coal-----	3	201	Gas
Shale, sandy, gray-----	19	220	
Sandstone-----	11	231	
Shale, gray-----	25	256	
Shale, dark-----	54	310	
Coal-----	3	313	
Shale, gray-----	11	324	
Coal-----	2	326	
Shale, dark-----	16	342	
Sandstone, broken-----	18	360	
Shale, sandy, dark-----	35	395	T. D. 2,000 ft.

## Well 9/8W-9P1

Type of record: Driller's log.

Altitude: About 540 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	17	17	
Hardpan-----	13	30	
Sand and gravel-----	9	39	
Pennsylvanian system:			
Middle series:			
Shale, sandy, light-----	36	75	
Shale, dark-----	65	140	
Shale, soft, dark-----	10	150	
Limestone-----	2	152	
Coal-----	2	154	
Fire clay-----	5	159	
Limestone, hard-----	3	162	
Sandstone, light-----	23	185	W. B.
Sandstone, white-----	20	205	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/8W-10G1

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

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface-----	11	11	
Hardpan-----	5	16	
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	6	22	
Shale, gray-----	84	106	
Shale, soft, blue-----	4	110	
Slate, black-----	3	113	
Coal-----	1.5	114.5	
Fire clay-----	6.5	121	
Sandstone, white-----	54	175	W. B.

Well 9/8W-11D1

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

Quaternary system:			
Dug well-----	24	24	
Hardpan-----	4	28	
Mud, soft-----	32	60	
Quicksand-----	5	65	
Shale, soft-----	9	74	Clay (?)
Quicksand-----	--	74	W. B.

Well 9/8W-16B1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Hardpan-----	27	42	
Shale, yellow-----	5	47	Clay (?)
Pennsylvanian system:			
Middle series:			
Shale, gray-----	11	58	
Limestone-----	2	60	W. B.
Shale, light-----	10	70	
Limestone-----	2	72	
Shale, sandy, broken-----	33	105	
Shale, dark-----	7	112	
Shale, gray-----	58	170	
Coal-----	3	173	
Shale, gray-----	2	175	
Sandstone-----	33	208	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/8W-16G1

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

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	40	40	Hard clay (?)
Slate and coal-----	6	46	
Hardpan-----	11	57	
Pennsylvanian system:			
Middle series:			
Limestone, hard-----	5	62	W. B.
Shale, gray-----	2	64	
Sandstone-----	19	83	
Shale, sandy-----	15	98	
Slate, dark-----	2	100	

Well 9/8W-19B1

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

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	13	13	W. B.
Hardpan-----	27	40	
Mud and gravel-----	20	60	
Sand, fine-----	3	63	
Mud and gravel-----	9	72	
Pennsylvanian system:			
Middle series:			
Shale, soft-----	3	75	W. B.
Coal-----	1	76	
Shale, gray-----	19	95	
Shale, dark-----	5	100	
Coal-----	2	102	
Shale-----	1	103	

Well 9/8W-20A1

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

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	15	15	W. B.
Hardpan-----	6	21	
Gravel and sand, gray-----	21	42	
Gravel, yellow-----	21	63	
Pennsylvanian system:			
Middle series:			
Slate, blue-----	1	64	W. B.
Coal-----	1	65	
Fire clay-----	3	68	W. B.
Limestone, sandy-----	7	75	
Limestone, hard-----	7	82	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 9/8W-20A1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Coal-----	2	84	
Slate, dark-----	15	99	

## Well 9/8W-21A1

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface-----	14	14	
Hardpan-----	3	17	
Sand and gravel-----	6	23	
Hardpan, soft, green-----	2	25	
Sand and gravel-----	11	36	
Hardpan, soft, green-----	3	39	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	15	54	
Shale, blue-----	3	57	
Shale, gray-----	21	78	
Shale, blue-----	9	87	
Shale, gray-----	33	120	
Shale, dark-----	1	121	
Slate, black, and rock-----	4	125	
Coal-----	2.5	127.5	
Fire clay-----	7.5	135	
Sandstone-----	3	138	
Shale, gray-----	3	141	
Sandstone, white-----	42	183	W. B.
Sandstone, dark-----	2	185	
Slate, black-----	1	186	
Shale, gray-----	6	192	

## Well 9/8W-21B1

Type of record: Driller's log.

Altitude: About 525 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	38	38	
Sand and gravel-----	12	50	
Hardpan-----	14	64	
Sand and gravel-----	8	72	
Hardpan-----	22	94	
Coal-----	1	95	
Hardpan-----	7	102	
Sand and gravel-----	3	105	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/8W-21B1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, soft-----	10	115	
Shale, gray-----	13	128	
Limestone, hard-----	3	131	W. B.
Slate and coal-----	4	135	
Fire clay-----	4	139	
Shale, sandy-----	8	147	
Shale, gray-----	9	156	

Well 9/8W-21R1

Type of record: Driller's log.

Altitude: About 510 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, red-----	15	15	
Hardpan-----	21	36	
Shale, soft-----	39	75	Clay (?)
Sand, soft-----	8	83	
Pennsylvanian system:			
Middle series:			
Slate, gray-----	14	97	
Coal-----	1	98	
Limestone-----	2	100	
Slate, gray-----	4	104	
Fire clay-----	3	107	
Shale, sandy-----	10	117	
Shale, soft-----	3	120	
Sandstone-----	12	132	W. B.
Sandstone, brown-----	6	138	
Shale, dark-----	13	151	
Sandstone-----	9	160	W. B., gas

Well 9/8W-23B1

Type of record: Driller's log.

Altitude: About 550 feet.

Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	29	29	
Hardpan-----	9	38	
Shale, yellow-----	4	42	Clay (?)
Pennsylvanian system:			
Middle series:			
Shale, dark-----	5	47	
Slate, black-----	5	52	
Coal-----	1	53	
Fire clay-----	2	55	
Limestone-----	3	58	
Sandstone-----	39	97	W. B.



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/8W-23G1

Type of record: Driller's log.

Altitude: About 545 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	12	12	Clay (?)
Quicksand-----	7	19	
Shale, soft-----	6	25	
Hardpan-----	17	42	
Pennsylvanian system:			
Middle series:			
Shale, soft-----	18	60	W. B.
Limestone-----	2	62	
Slate and coal-----	3	65	
Fire clay-----	3	68	W. B.
Shale, sandy-----	6	74	
Sandstone, white-----	36	110	

Well 9/8W-24H1

Type of record: Driller's log.

Altitude: About 620 feet.

Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	14	14	
Hardpan-----	12	26	
Pennsylvanian system:			
Middle series:			
Shale, sandy, gray-----	17	43	
Shale, sandy, dark-----	15	58	
Sandstone, hard-----	32	90	
Shale, dark-----	21	111	
Slate, black-----	3	114	
Coal-----	3	117	
Limestone, hard-----	2	119	
Coal-----	3	122	
Shale, gray-----	6	128	

Well 9/8W-27C1

Type of record: Driller's log.

Altitude: About 580 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	10	10	Boulder (?)
Hardpan-----	17	27	
Limestone-----	6	33	
Hardpan-----	7	40	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	10	50	
Shale, dark-----	30	80	
Shale, gray-----	37	117	
Limestone-----	2	119	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/8W-28G1

Type of record: Driller's log.

Altitude: About 515 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Gravel and hardpan-----	42	42	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	23	65	
Shale, sandy-----	45	110	
Limestone, shelly-----	2	112	
Coal-----	5	117	
Fire clay-----	4	121	
Sandstone-----	37	158	W. B.
Shale, dark-----	2	160	

Well 9/8W-28G2

Type of record: Driller's log.

Altitude: About 515 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	20	20	
Pennsylvanian system:			
Middle series:			
Shale, soft, gray-----	8	28	
Shale, dark-----	20	48	
Slate, black, and coal-----	7	55	
Fire clay-----	4	59	
Limestone, hard-----	3	62	
Shale, sandy-----	6	68	
Sandstone-----	40	108	

Well 9/8W-28G3

Type of record: Driller's log.

Altitude: About 510 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	
Sand and gravel-----	27	47	
Hardpan-----	8	55	
Mud, blue-----	17	72	
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	34	106	
Limestone, shelly-----	6	112	
Shale, black-----	2	114	
Coal-----	3	117	W. B.
Fire clay-----	1	118	
Limestone, shelly-----	4	122	
Sandstone-----	40	162	W. B.
Shale, dark-----	2	164	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/8W-28G4

Type of record: Driller's log.

Altitude: About 510 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	10	10	
Hardpan-----	20	30	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	66	96	
Limestone-----	3	99	
Slate, black-----	7	106	
Coal, trace-----	--	106	
Sandstone-----	34	140	
Slate, black-----	--	140	

Well 9/8W-28G5

Type of record: Driller's log.

Altitude: About 510 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	27	27	
Sand and hardpan-----	16	43	
Pennsylvanian system:			
Middle series:			
Shale-----	72	115	
Slate, black-----	4	119	
Coal-----	3	122	W. B.
Fire clay-----	4	126	
Sandstone, light-----	38	164	W. B.

Well 9/8W-28K1

Type of record: Driller's log.

Altitude: About 520 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	16	16	
Hardpan-----	27	43	
Pennsylvanian system:			
Middle series:			
Limestone, hard-----	3	46	W. B.
Shale, light-----	11	57	
Limestone, hard-----	6	63	W. B.
Slate, black-----	5	68	
Coal-----	5	73	
Fire clay-----	3	76	
Shale, gray-----	56	132	
Limestone, hard-----	3	135	
Slate, dark-----	3	138	
Coal-----	4	142	
Fire clay-----	4	146	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/8W-28Q2

Type of record: Driller's log.

Altitude: About 520 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Record missing-----	31	31	
Pennsylvanian system:			
Middle series:			
Shale, light-----	2	33	
Limestone-----	2	35	
Shale, light-----	3	38	
Limestone-----	4	42	W. B.
Coal-----	2	44	
Fire clay-----	5	49	
Shale, light-----	5	54	
Shale, sandy-----	7	61	
Slate, gray-----	6	67	
Shale, dark-----	61	128	
Slate, black-----	7	135	W. B.
Coal-----	5	140	
Fire clay-----	2	142	
Sandstone-----	41	183	W. B.

Well 9/8W-28R1

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface-----	13	13	
Shale, sandy, yellow-----	12	25	Clay (?)
Shale, gravelly-----	5	30	Do
Pennsylvanian system:			
Middle series:			
Shale, gray-----	5	35	
Sandstone-----	3	38	
Shale, white-----	5	43	
Sandstone-----	7	50	
Limestone-----	4.5	54.5	
Slate, black-----	5	59.5	
Mine opening-----	5.5	65	

Well 9/8W-29H1

Type of record: Driller's log.

Altitude: About 490 feet.

Quaternary system:			
Recent and Pleistocene series:			
Fill; red shale, gravel and clay-	4	4	
Clay-----	7	11	
Clay, hard, gritty-----	1	12	
Sand and gravel, clean-----	2	14	W. B.
Clay, gritty-----	6	20	
Shale, blue-----	3	23	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/8W-30G1

Type of record: Driller's log.

Altitude: About 504 feet.

Material	Thick- ness (feet)	Depths (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	14	14	
Clay, black-----	13	27	
Clay, yellow-----	3	30	
Clay, blue-----	7	37	
Pennsylvanian system:			
Middle series:			
Shale, soft-----	5	42	
Shale, muddy-----	38	80	
Shale-----	4	84	W. B.
Shale, soft-----	36	120	
Coal-----	5	125	
Shale, light-----	15	140	
Shale, brown-----	35	175	
Coal-----	8	183	Gas
Sandstone, shaly-----	2	185	
Shale, white-----	19	204	
Coal-----	4	208	
Shale, sandy, white-----	20	228	
Shale, sandy, hard, white-----	20	248	
Shale, sandy, dark-----	5	253	
Coal-----	4	257	Gas
Shale, sandy, light-----	27	284	
Shale, brown-----	9	293	
Coal-----	2	295	Gas
Shale, light-----	8	303	
Shale, sandy, hard-----	3	306	
Shale, light, and sandstone-----	8	314	
Coal-----	2	316	Gas
Shale, light-----	4	320	
Shale, sandy, hard, dark-----	7	327	
Shale, black-----	9	336	T. D. 818 ft.

Well 9/8W-30P1

Type of record: Driller's log.

Altitude: About 545 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	16	16	
Hardpan-----	14	30	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	37	67	
Coal-----	3	70	
Fire clay-----	5	75	
Shale, sandy-----	2	77	
Sandstone, white-----	8	85	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/8W-30P2

Type of record: Driller's log.

Altitude: About 545 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Soil and hardpan-----	35	35	
Gumbo-----	5	40	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	23	63	
Coal-----	3	66	
Fire clay-----	7	73	
Sandstone-----	5	78	
Sandstone, soft, broken-----	5	83	Collapse above mine opening

Well 9/8W-32D1

Type of record: Driller's log.

Altitude: About 520 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Top soil-----	28	28	
Quicksand and mud-----	2	30	
Pennsylvanian system:			
Middle series:			
Shale, white-----	27	57	
Coal, slate, and shale-----	5	62	
Coal, hard-----	2	64	
Shale-----	37	101	

Well 9/8W-34D1

Type of record: Driller's log.

Altitude: About 525 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, red-----	20	20	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	15	35	
Sandstone-----	2	37	
Shale, black-----	6	43	
Limestone-----	7	50	
Coal-----	3	53	
Fire clay-----	12	65	
Shale, sandy-----	15	80	
Shale, dark-----	16	96	W. B.



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-1K1

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

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	18	18	
Hardpan-----	8	26	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	14	40	
Sandstone-----	12	52	
Shale-----	18	70	
Coal-----	3	73	W. B.
Shale, gray-----	--	73	

Well 9/9W-1N1

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

Quaternary system:			
Recent and Pleistocene series:			
Top soil and yellow clay-----	4	4	
Sand, muddy, and clay-----	2	6	
Gravel, muddy-----	2	8	W. B.
Sand, medium, and gravel-----	2	11	W. B.
Sand, medium-----	1	12	W. B.
Pennsylvanian system:			
Middle series:			
Sandstone-----	1	13	

Well 9/9W-2C1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay, soft-----	18	18	
Gravel and red clay-----	12	30	
Mud, yellow-----	10	40	
Pennsylvanian system:			
Middle series:			
Limestone, shell-----	4	44	
Fire clay-----	20	64	
Mud, blue-----	25	89	
Shale, gray-----	30	119	
Shale, white-----	23	142	
Coal-----	2	144	
Shale, dark-----	11	155	
Sandstone-----	20	175	W. B.
Shale, dark-----	75	250	
Limestone, shell, hard-----	5	255	
Shale, dark-----	10	265	
Limestone, shell, hard-----	4	269	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-2C1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Coal-----	1	270	
Limestone, shell-----	5	275	
Slate, black-----	3	278	
Coal-----	6	284	W. B.
Shale, light-----	95	379	
Coal-----	6	385	
Shale, black-----	18	403	
Shale, white-----	25	428	
Shale, sandy-----	10	438	
Shale, white-----	10	448	
Shale, sandy-----	15	463	
Shale, white-----	27	490	
Lower (?) series:			
Shale, dark-----	65	555	
Sandstone, brown-----	8	563	Gas
Sandstone, broken, and shale-----	47	610	
Coal-----	2	612	
Sandstone-----	23	635	Salt water

Well 9/9W-2H1

Type of record: Driller's log.

Altitude: About 570 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	18	18	
Hardpan and shale-----	25	43	Hardpan and clay (?)
Sand, soft-----	10	53	W. B.
Sand and shale-----	8	61	Sand and clay (?)
Sand and gravel-----	9	70	W. B.

Well 9/9W-3A1

Type of record: Driller's log.

Altitude: About 560 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	14	14	
Hardpan-----	7	21	
Pennsylvanian system:			
Middle (?) series:			
Sandstone-----	4	25	
Limestone, hard-----	3	28	
Shale, gray-----	2	30	
Limestone, hard-----	2	32	
Shale, soft, light-----	3	35	
Shale, sandy-----	12	47	
Sandstone-----	11	58	W. B.
Shale, gray-----	29	87	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-3A1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Coal-----	4	91	
Fire clay-----	4	95	
Shale, light-----	5	100	
Sandstone-----	20	120	W. B.
Shale, gray-----	38	158	
Shale, dark-----	30	188	
Limestone, hard-----	4	192	
Shale, light-----	8	200	
Limestone-----	5	205	

Well 9/9W-3B1

Type of record: Driller's log.		Altitude: About 560 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	23	23	
Hardpan-----	37	60	
Pennsylvanian system:			
Middle series:			
Sandstone-----	18	78	W. B.
Sandstone, broken-----	25	103	
Coal-----	3	106	W. B.
Shale-----	4	110	
Fire clay-----	5	115	
Shale-----	5	120	
Limestone-----	8	128	
Shale-----	22	150	

Well 9/9W-4C1

Type of record: Driller's log.		Altitude: About 540 feet.	
Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	13	13	
Hardpan-----	10	23	
Pennsylvanian system:			
Middle series:			
Shale, soft-----	5	28	
Limestone, hard-----	4	32	
Shale, gray-----	2	34	
Red rock-----	8	42	
Shale, gray-----	26	68	
Sandstone-----	15	83	W. B.
Limestone, hard-----	3	86	
Sandstone, white-----	24	110	W. B.
Shale, dark-----	15	125	
Slate, blue, and coal-----	5	130	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 9/9W-4C1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Fire clay-----	2	132	W. B.
Sandstone, light-----	18	150	
Shale, sandy, light-----	8	158	
Shale, sandy, dark-----	8	166	

## Well 9/9W-4C2

Type of record: Driller's log.		Altitude: About 530 feet.		
Quaternary system:				
Recent and Pleistocene series:				
Clay-----	12	12	W. B.	
Hardpan-----	16	28		
Pennsylvanian system:				
Middle series:				
Red rock-----	4	32		
Shale, gray-----	2	34		
Limestone, sandy-----	4	38		
Shale, gray-----	16	54		
Limestone, sandy, hard-----	46	100		
Shale, dark-----	15	115		
Coal-----	4	119		
Fire clay-----	7	126		
Limestone-----	2	128		
Sandstone, broken, and shale-----	5	133		
Sandstone-----	21	154		

## Well 9/9W-4D1

Type of record: Driller's log.		Altitude: About 550 feet.		
Quaternary system:				
Recent and Pleistocene series:				
Clay-----	15	15	W. B.	
Hardpan-----	19	34		
Gravel-----	31	65		
Pennsylvanian system:				
Middle series:				
Shale, dark-----	5	70		
Shale, gray-----	3	73		
Limestone-----	4	77		
Shale, green, and red rock-----	2	79		
Limestone, hard-----	5	84		
Red rock-----	2	86		

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-4J1

Type of record: Driller's log.

Altitude: About 530 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	16	16	
Hardpan-----	6	22	
Mud and sand-----	18	40	
Quicksand and gravel-----	11	51	
Mud, green, and sand-----	20	71	W. B.
Pennsylvanian system:			
Middle series:			
Sandstone-----	9	80	W. B.
Shale, dark-----	24	104	
Coal-----	3	107	
Fire clay-----	4	111	
Shale, light-----	8	119	
Sandstone, white-----	9	128	W. B.
Shale, dark-----	7	135	
Coal-----	5	140	
Shale, light-----	4	144	

Well 9/9W-4R1

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	20	20	
Hardpan-----	15	35	
Pennsylvanian system:			
Middle series:			
Sandstone-----	70	105	W. B.
Shale-----	9	114	
Coal-----	1	115	
Shale-----	5	120	

Well 9/9W-5N1

Type of record: Driller's log.

Altitude: About 560 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	15	15	
Hardpan and gravel-----	50	65	
Shale, soft-----	14	79	Clay (?)
Gravel-----	3	82	

Well 9/9W-5P1

Type of record: Driller's log.

Altitude: About 550 feet.

Quaternary system:			
Recent and Pleistocene series:			
Mud and clay-----	16	16	
Hardpan and gravel-----	24	40	





Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-8Q1--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Red rock-----	5	104	
Shale, gray-----	4	108	
Sandstone-----	10	118	
Shale, gray-----	9	127	
Shale, dark-----	12	139	
Coal-----	3	142	
Shale, gray-----	11	153	
Shale, sandy-----	24	177	
Shale, gray-----	18	195	
Coal-----	1	196	
Fire clay-----	10	206	
Limestone, sandy-----	3	209	
Shale, sandy-----	9	218	
Shale, dark-----	17	235	
Coal-----	6	241	
Fire clay-----	6	247	
Shale, gray-----	35	282	
Slate, black, and coal-----	3	285	
Shale, gray-----	2	287	
Limestone-----	1	288	
Shale, gray-----	9	297	
Slate, black-----	3	300	
Limestone, sandy-----	4	304	
Slate, black-----	9	313	
Limestone-----	5	318	
Slate, black-----	9	327	
Coal-----	5	332	

## Well 9/9W-8R1

Type of record: Driller's log.

Altitude: About 535 feet.

Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	19	19	
Hardpan, gray-----	21	40	
Sand and gravel, yellow-----	25	65	
Sand, fine, gray-----	13	78	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	5	83	
Sandstone-----	11	94	W. B.
Shale, light-----	6	100	
Shale, dark-----	10	110	
Sandstone, dark-----	55	165	W. B.



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-9D1

Type of record: Driller's log.

Altitude: About 545 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	19	19	
Hardpan and gravel-----	26	45	
Pennsylvanian system:			
Middle series:			
Shale, light-----	9	54	
Shale, sandy-----	24	78	W. B.
Sandstone, light-----	37	115	
Shale, dark-----	13	128	
Coal-----	2	130	
Shale, dark-----	5	135	
Limestone, hard-----	4	139	
Sandstone-----	11	150	W. B.
Shale, sandy-----	10	160	
Coal and slate-----	5	165	
Shale, light-----	8	173	

Well 9/9W-9G1

Type of record: Driller's log.

Altitude: About 520 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	12	12	
Gravel-----	44	56	
Pennsylvanian system:			
Middle series:			
Shale-----	19	75	
Limestone-----	1	76	
Shale-----	4	80	
Limestone-----	1	81	
Shale, sandy-----	21	102	
Slate-----	27	129	
Coal-----	2	131	W. B.
Shale-----	43	174	
Coal-----	3	177	W. B.
Slate-----	3	180	
Shale-----	36	216	
Slate-----	1	217	
Coal-----	2	219	Gas
Shale, sandy-----	50	269	W. B.
Slate-----	1	270	
Limestone-----	4	274	
Slate-----	4	278	
Coal-----	2	280	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-9J1

Type of record: Driller's log.

Altitude: About 510 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	3	3	
Clay, sandy-----	16	19	
Sand, muddy-----	6	25	
Clay, yellow-----	2	27	
Pennsylvanian system:			
Middle series:			
Sandstone-----	2	29	

Well 9/9W-10B1

Type of record: Driller's log.

Altitude: About 555 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Soil, clay, and sand-----	30	30	
Hardpan-----	40	70	
Sand-----	3	73	W. B.
Pennsylvanian system:			
Middle series:			
Sandstone-----	19	92	
Shale-----	21	113	
Coal-----	2	115	
Shale-----	10	125	
Sandstone-----	20	145	
Shale-----	2	147	
Coal-----	5	152	
Shale, gray-----	43	195	
Coal-----	2	197	
Slate, black-----	3	200	

Well 9/9W-10G1

Type of record: Driller's log.

Altitude: About 540 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	14	14	
Hardpan-----	11	25	
Pennsylvanian system:			
Middle series:			
Shale-----	6	31	
Limestone-----	5	36	
Shale-----	4	40	
Red rock-----	4	44	
Limestone, sandy-----	11	55	
Shale, gray-----	16	71	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-11A1

Type of record: Driller's log.

Altitude: About 550 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	24	24	
Pennsylvanian system:			
Middle series:			
Shale, soft-----	6	30	
Shale, sandy-----	5	35	
Limestone, hard-----	3	38	
Shale, gray-----	7	45	
Shale, sandy-----	58	103	W. B.
Shale, gray-----	4	107	
Coal-----	4	111	
Fire clay, cavey-----	3	114	
Shale, dark-----	4	118	
Shale, sandy-----	12	130	
Limestone, hard-----	3	133	
Sandstone, broken-----	14	147	
Coal-----	4	151	W. B.
Fire clay-----	4	155	
Shale, dark-----	10	165	

Well 9/9W-11N1

Type of record: Driller's log.

Altitude: About 560 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	14	14	
Gravel-----	12	26	
Pennsylvanian system:			
Middle (?) series:			
Sandstone, dark-----	39	65	W. B.
Shale, dark-----	11	76	
Limestone, brown-----	2	78	W. B.
Shale, light-----	4	82	
Limestone, hard-----	4	86	
Fire clay-----	4	90	
Mud, blue-----	3	93	
Sandstone, white-----	14	107	W. B.
Shale, sandy-----	13	120	
Shale, dark-----	4	124	

Well 9/9W-13G1

Type of record: Driller's log.

Altitude: About 530 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	12	12	
Sand-----	5	17	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-13G1--Continued

Materials	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Limestone-----	13	30	
Shale, sandy-----	22	52	
Sandstone-----	11	63	W. B.
Shale-----	1	64	

Well 9/9W-14E1

Type of record: Driller's log.

Altitude: About 560 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Pennsylvanian system:			
Middle (?) series:			
Sandstone-----	5	20	
Shale-----	22	42	
Slate-----	37	79	
Coal-----	1	80	
Shale, gray-----	12	92	
Limestone-----	1	93	
Shale-----	5	98	
Limestone-----	3	101	
Shale-----	37	138	
Shale, sandy-----	8	146	
Slate-----	6	152	
Shale, sandy-----	23	175	
Shale, gray-----	23	198	
Coal-----	4	202	
Shale, sandy-----	38	240	
Shale-----	2	242	
Coal-----	3	245	Salt water
Shale-----	25	270	

Well 9/9W-14H1

Type of record: Driller's log.

Altitude: About 580 feet.

Record missing-----	18	18	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	17	35	
Shale, dark-----	16	51	
Coal-----	2	53	W. B.
Fire clay-----	3	56	
Clay, gray-----	14	70	
Limestone, hard-----	5	75	W. B.
Red rock-----	5	80	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-14J1

Type of record: Driller's log.

Altitude: About 590 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Hardpan-----	24	24	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	43	67	
Coal-----	2	69	
Fire clay-----	4	73	
Shale, dark-----	9	82	
Limestone, hard-----	3	85	
Shale, dark-----	4	89	
Limestone, hard-----	5	94	
Sandstone-----	8	102	W. B.
Shale, sandy-----	18	120	
Sandstone-----	30	150	W. B.
Shale, gray-----	22	172	

Well 9/9W-15E1

Type of record: Driller's log.

Altitude: About 510 feet.

Record missing-----	29	29	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	6	35	
Coal and fire clay-----	8	43	
Shale-----	8	51	
Limestone, hard-----	3	54	
Shale-----	3	57	
Limestone, hard-----	5	62	
Red rock-----	7	69	
Shale, light-----	10	79	
Shale, dark-----	16	95	
Coal and fire clay-----	10	105	
Shale, sandy-----	10	115	
Shale, sandy, dark-----	45	160	
Shale, dark-----	10	170	
Coal-----	3	173	
Fire clay-----	4	177	
Limestone-----	--	177	

Well 9/9W-15R1

Type of record: Driller's log.

Altitude: About 550 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	17	17	
Hardpan-----	5	22	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-15R1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, soft, light-----	5	27	
Shale, gray-----	8	35	
Shale, dark-----	7	42	
Shale, sandy-----	28	70	
Shale, dark-----	14	84	
Coal-----	1	85	W. B.
Fire clay-----	2	87	
Shale, dark-----	13	100	
Limestone, hard-----	7	107	W. B.
Red rock-----	5	112	
Shale, gray-----	4	116	
Limestone-----	4	120	
Shale, dark-----	2	122	

Well 9/9W-15R2

Type of record: Driller's log.

Altitude: About 545 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	15	15	
Hardpan-----	17	32	
Pennsylvanian system:			
Middle (?) series:			
Shale-----	36	68	
Sandstone-----	10	78	
Limestone-----	2	80	
Coal-----	2	82	
Shale-----	12	94	
Limestone-----	12	106	W. B.
Fire clay-----	6	112	
Shale-----	4	116	
Limestone-----	5	121	
Sandstone-----	24	145	
Shale-----	5	150	

Well 9/9W-16D1

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Hardpan-----	22	40	
Shale and sand-----	19	59	Clay (?) and sand
Shale, green-----	22	81	Clay (?)
Sand and gravel-----	2	83	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-16D1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Limestone, sandy-----	7	90	
Shale, dark-----	30	120	
Shale, gray-----	49	169	
Coal-----	4	173	
Shale, gray-----	5	178	
Limestone-----	3	181	
Limestone, sandy-----	9	190	
Shale, sandy, gray-----	18	208	
Shale, dark-----	6	214	
Slate, black-----	4	218	
Coal and slate-----	5	223	
Fire clay-----	7	230	
Shale, soft, gray-----	24	254	
Slate, black-----	2	256	
Shale, limy, broken-----	18	274	
Limestone, sandy-----	6	280	
Limestone, hard-----	5	285	
Slate, black-----	7	292	
Coal-----	5	297	

Well 9/9W-16J1

Type of record: Driller's log.

Altitude: About 515 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	20	20	
Pennsylvanian system:			
Middle series:			
Shale, light-----	22	42	
Shale, dark-----	6	48	
Coal-----	1	49	W. B.
Fire clay-----	3	52	
Shale, gray-----	6	58	
Limestone-----	3	61	W. B.
Shale, light-----	2	63	
Limestone, hard-----	4	67	
Shale, light-----	2	69	
Red rock-----	5	74	
Shale, sandy-----	16	90	W. B.

Well 9/9W-18M1

Type of record: Driller's log.

Altitude: About 524 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, sand, and gravel-----	55	55	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-18M1--Continued			
Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale-----	40	95	
Coal-----	1	96	
Fire clay-----	3	99	
Shale-----	4	103	
Shale, limy, nodules (?)-----	3	106	
Shale-----	3	109	
Limestone-----	1	110	
Shale-----	3	113	
Shale, red-----	3	116	
Shale-----	1	117	
Limestone-----	1	118	
Shale and limestone-----	2	120	
Sandstone-----	14	134	
Sandstone and shale streaks-----	21	155	
Sandstone, shaly-----	48	203	
Coal-----	2	205	
Clay-----	11	216	
Sandstone and shale streaks-----	32	248	
Coal-----	6	254	
Shale, hard rough ledges (limestone?)-----	24	278	
Coal-----	1	279	
Shale, hard ledges (limestone?)--	25	304	
Coal and slate-----	3	307	
Clay-----	1	308	
Limestone and black slate-----	9	317	
Shale, hard ledges (limestone?)--	53	370	
Sandstone-----	40	410	T. D. 998 ft.

Well 9/9W-18R1

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Mud, dark-----	5	5	
Gravel and sand-----	70	75	
Pennsylvanian system:			
Middle series:			
Sandstone, hard-----	10	85	
Shale, white-----	15	100	
Mud, dark-----	35	135	
Shale, white-----	25	160	
Coal-----	5	165	
Mud, white-----	10	175	
Sandstone-----	8	183	
Mud, white-----	22	205	
Coal-----	4	209	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-18R1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Mud, white-----	36	245	
Coal-----	3	248	W. B.
Limestone, shell, hard-----	8	256	
Shale, dark-----	19	275	
Mud, white-----	15	290	
Shale, dark-----	30	320	
Coal-----	5	325	Gas
Mud, dark-----	15	340	
Sandstone-----	35	375	
Mud, white-----	10	385	
Sandstone, white-----	40	425	T. D. 656 ft.

Well 9/9W-18R2

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

Quaternary system:			
Recent and Pleistocene (?) series:			
Clay-----	12	12	
Mud, blue-----	16	28	
Shale, light-gray-----	27	55	Clay (?)
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	50	105	
Shale, dark-----	16	121	
Coal-----	2	123	
Shale, light-----	3	126	
Shale, sandy-----	29	155	
Slate, gray-----	10	165	
Coal-----	6	171	
Shale, light-gray-----	23	194	
Coal-----	1	195	
Shale, gray-----	6	201	
Limestone, white-----	3	204	
Shale, dark-gray-----	14	218	
Sandstone, light-----	4	222	
Shale, sandy, dark-----	38	260	
Coal-----	1	261	
Shale, sandy, dark-----	57	318	
Sandstone-----	20	338	Gas

Well 9/9W-19A1

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

Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	16	16	
Hardpan-----	54	70	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-19A1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Shale, muddy-----	25	95	Clay (?)
Sand-----	1	96	W. B., gas

Well 9/9W-19A2

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, sand, and gravel-----	42	42	Boulder (?)
Limestone-----	4	46	
Sand and gravel-----	10	56	
Pennsylvanian system:			
Middle series:			
Limestone, sandy-----	39	95	
Slate-----	15	110	
Coal-----	3	113	
Limestone, sandy-----	32	145	
Slate-----	10	155	
Coal-----	5	160	
Shale-----	24	184	
Coal-----	4	188	Gas
Fire clay-----	12	200	
Coal-----	2	202	Gas
Slate and limestone-----	4	206	
Slate and coal-----	10	216	Gas
Slate-----	58	274	
Coal-----	3	277	
Shale-----	6	283	
Limestone-----	5	288	
Sandstone-----	32	320	

Well 9/9W-19A3

Type of record: Driller's log.

Altitude: About 520 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, sand, and gravel-----	89	89	
Pennsylvanian system:			
Middle series:			
Limestone-----	2	91	
Slate-----	19	110	
Limestone-----	15	125	
Shale, sandy-----	15	140	
Slate, black, and coal-----	7	147	
Slate-----	25	172	
Limestone-----	2	174	
Coal-----	4	178	Gas

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-19A3--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Slate-----	10	188	
Coal-----	5	193	
Limestone-----	5	198	
Coal-----	5	203	
Shale-----	47	250	
Coal-----	3	253	W. B., gas
Shale-----	5	258	
Sandstone-----	9	267	Gas

Well 9/9W-19G1

Type of record: Driller's log.

Altitude: About 500 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Shale and gravel-----	60	75	Clay (?) and gravel
Pennsylvanian system:			
Middle series:			
Limestone-----	3	78	
Slate-----	27	105	
Coal-----	5	110	
Slate-----	5	115	
Limestone-----	7	122	
Shale, sandy-----	18	140	
Shale-----	32	172	
Limestone-----	2	174	
Shale-----	19	193	
Coal-----	5	198	Gas
Limestone-----	6	204	
Shale, sandy-----	36	240	
Shale, gray-----	26	266	
Coal-----	6	272	Gas
Limestone-----	3	275	
Sandstone-----	17	392	W. B., gas
Shale, dark-----	4	396	
Limestone-----	4	400	
Coal-----	3	403	T. D. 628 ft.

Well 9/9W-19K1

Type of record: Driller's log.

Altitude: About 520 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	50	50	
Sand and gravel-----	15	65	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 9/9W-19K1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, gray-----	21	86	
Limestone-----	3	89	
Shale, sandy-----	9	98	
Shale, dark-----	14	112	
Shale, gray-----	5	117	
Shale, sandy-----	34	151	
Coal-----	3	154	
Fire clay-----	2	156	
Shale, gray-----	4	160	W. B.
Limestone, sandy-----	30	190	
Slate-----	2	192	
Coal-----	5	197	
Shale-----	31	228	
Limestone-----	1	229	
Shale-----	12	241	
Limestone-----	1	242	
Shale-----	4	246	
Limestone-----	5	251	
Shale-----	27	278	
Slate-----	40	318	
Sandstone-----	34	352	W. B.

## Well 9/9W-20D1

Type of record: Driller's log.

Altitude: About 520 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Hardpan-----	45	60	
Shale, sand, and gravel-----	32	92	Clay (?), sand, and gravel
Sand-----	1	93	Gas
Pennsylvanian system:			
Middle series:			
Limestone-----	3	96	

## Well 9/9W-20D2

Type of record: Driller's log.

Altitude: About 505 feet.

Quaternary system:			
Recent and Pleistocene series:			
Drift and loose sand-----	12	12	W. B.
Shale, light-gray-----	60	72	Clay (?)
Sand, loose-----	2	74	W. B.
Pennsylvanian system:			
Middle series:			
Shale, dark-gray-----	15	89	
Coal-----	3	92	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-20D2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, light-gray-----	9	101	
Limestone, shell, white-----	5	106	
Shale, sandy, light-----	12	118	W. B.
Slate, gray-----	11	129	
Coal-----	6	135	W. B.
Shale, light-gray-----	27	162	
Coal-----	1	163	
Shale, light-gray-----	13	176	
Slate, gray-----	3	179	
Coal-----	2	181	Gas
Shale, sandy, dark-----	9	190	
Slate, black-----	8	198	
Shale, dark-gray-----	10	208	
Shale, light-gray-----	16	224	
Shale, dark-gray-----	18	242	
Slate, gray-----	4	246	
Shale, sandy, light-----	4	250	
Sandstone, light-gray-----	8	258	Gas

Well 9/9W-20M1

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	15	15	
Hardpan-----	25	40	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	8	48	
Shale, dark-----	12	60	
Coal-----	2	62	
Shale, gray-----	23	85	
Sandstone, white-----	15	100	W. B.
Shale, dark-----	3	103	

Well 9/9W-21P1

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Hardpan-----	22	40	
Pennsylvanian system:			
Middle series:			
Shale, limy, broken-----	10	50	
Shale, dark-----	24	74	
Coal, trace-----	--	74	
Fire clay-----	3	77	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 9/9W-21P1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, gray-----	3	80	
Shale, limy, broken-----	12	92	

## Well 9/9W-22E1

Type of record: Driller's log.

Altitude: About 525 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	14	14	
Hardpan-----	15	29	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	37	66	
Coal-----	1	67	
Shale, dark-----	10	77	
Limestone, gray-----	3	80	
Shale, white-----	2	82	
Limestone, white-----	3	85	
Red rock-----	7	92	
Sandstone, very hard-----	5	97	
Sandstone, soft, coarse-----	8	105	
Shale, muddy-----	20	125	
Shale, sandy-----	18	143	
Sandstone, dark-----	10	153	
Sandstone, light-----	22	175	
Shale, sandy-----	15	190	

## Well 9/9W-23C1

Type of record: Driller's log.

Altitude: About 570 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	18	18	
Pennsylvanian system:			
Middle series:			
Shale, blue-----	39	57	
Coal and blue slate-----	3	60	
Sandstone-----	5	65	W. B.
Sandstone, broken-----	2	67	
Limestone, sandy-----	5	72	W. B.
Limestone, white-----	3	75	

## Well 9/9W-23H1

Type of record: Driller's log.

Altitude: About 560 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	15	15	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 9/9W-23H1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Hardpan-----	6	21	Cemented sand (?)
Sandstone-----	2	23	
Hardpan-----	12	35	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	5	40	W. B.
Limestone, hard-----	1	41	
Shale, gray-----	4	45	
Limestone, hard-----	4	49	
Shale, gray, and red rock-----	5	54	
Limestone, hard-----	4	58	
Shale, sandy-----	19	77	
Shale, dark-----	6	83	
Shale, sandy-----	60	143	
Slate, dark-----	4	147	
Coal-----	5	152	
Shale, gray-----	2	154	
Sandstone-----	26	180	
Shale, dark-----	3	183	

## Well 9/9W-23N1

Type of record: Driller's log.

Altitude: About 540 feet.

Quaternary system:				
Recent and Pleistocene series:				
Clay, yellow-----	14	14	W. B.	
Mud, blue-----	13	27		
Pennsylvanian system:				
Middle series:				
Shale, dark-----	43	70		
Coal and shale-----	2	72		
Fire clay-----	5	77		
Shale, sandy-----	8	85		
Limestone-----	7	92		

## Well 9/9W-26D1

Type of record: Driller's log.

Altitude: About 540 feet.

Quaternary system:				
Recent and Pleistocene series:				
Clay, yellow-----	14	14	W. B.	
Mud, blue-----	13	27		
Pennsylvanian system:				
Middle series:				
Shale, dark-----	43	70		
Coal-----	2	72		
Fire clay-----	5	77		





Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-27N1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Limestone, sandy-----	6	180	
Shale, dark-----	10	190	
Slate-----	10	200	
Coal-----	5	205	

Well 9/9W-28D1

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	16	16	
Hardpan-----	8	24	
Pennsylvanian system:			
Middle (?) series:			
Sandstone-----	6	30	W. B.
Shale, dark-----	12	42	
Limestone, hard-----	3	45	
Coal and fire clay-----	3	48	W. B.
Shale, light-----	5	53	
Limestone, hard-----	4	57	
Shale, light-----	2	59	
Limestone, hard-----	5	64	W. B.
Red rock-----	4	68	
Shale, gray-----	3	71	
Limestone-----	4	75	
Shale-----	2	77	

Well 9/9W-29G2

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	20	20	
Fire clay, blue-----	15	35	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	25	60	W. B. 40-45 ft.
Limestone, sandy-----	18	78	W. B.
Limestone-----	5	83	
Red rock-----	5	88	
Sandstone, light-----	22	110	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-29K1

Type of record: Driller's log.

Altitude: About 530 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Soil-----	3	3	
Clay-----	8	11	
Pennsylvanian system:			
Middle series:			
Slate and fire clay-----	9	20	
Slate-----	47	67	
Limestone, shell-----	3	70	
Slate-----	15	85	
Limestone, shell-----	8	93	
Shale, sandy-----	37	130	
Shale, dark-----	5	135	
Shale, sandy-----	27	162	
Coal-----	5	167	
Fire clay-----	5	172	
Limestone, white-----	7	179	
Shale, sandy-----	26	205	
Coal-----	6	211	Gas
Shale-----	19	230	
Shale, sandy-----	22	252	
Limestone-----	4	256	
Coal-----	5	261	Gas
Limestone-----	4	265	
Shale, sandy-----	40	305	
Slate and shale-----	40	345	
Coal-----	2	347	Gas
Slate, gray-----	8	355	
Shale, sandy-----	5	360	
Sandstone-----	20	380	W. B.
Slate, black-----	5	385	
Shale, sandy-----	10	395	T. D. 561 ft.

Well 9/9W-29M1

Type of record: Driller's log.

Altitude: About 533 feet.

Quaternary system:		
Recent and Pleistocene series:		
Surface-----	20	20
Sand and gravel-----	10	30
Pennsylvanian system:		
Middle (?) series:		
Shale-----	30	60
Sandstone-----	5	65
Coal and shale-----	5	70
Shale, gray-----	5	75
Red rock-----	5	80
Shale-----	15	95

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-29M1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Sandstone-----	10	105	
Shale-----	13	118	
Sandstone-----	32	150	
Shale-----	25	175	
Coal-----	3	178	
Shale-----	38	216	
Coal-----	6	222	
Shale-----	36	258	
Limestone-----	6	264	
Shale-----	3	267	
Coal-----	6	273	
Shale-----	102	375	
Sandstone-----	15	390	
Coal-----	3	393	
Shale-----	17	410	T. D. 2,396 ft.

Well 9/9W-31G1

Type of record: Driller's log.

Altitude: About 500 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	
Hardpan-----	10	30	
Gravel-----	5	35	W. B.
Shale, soft, white-----	3	38	Clay (?)
Gravel-----	2	40	W. B.
Shale, soft, white-----	5	45	Clay (?)
Clay-----	10	55	
Pennsylvanian system:			
Middle series:			
Shale, blue-----	19	74	
Limestone, shell, hard-----	6	80	
Shale, soft, red-----	10	90	
Shale, sandy-----	20	110	
Shale, dark-----	15	125	
Sandstone and shale-----	25	150	
Shale, blue-----	14	164	
Coal-----	4	168	
Shale, gray-----	39	207	
Coal-----	5	212	
Shale, black-----	13	225	
Shale, gray-----	9	234	
Coal-----	3	237	
Shale, gray-----	13	250	
Limestone-----	1	251	
Coal-----	3	254	
Shale, dark-----	12	266	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-31G1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Limestone, shells-----	14	280	
Shale, gray-----	30	310	
Shale, dark-----	31	341	
Coal-----	4	345	
Shale, dark-----	2	347	
Sandstone-----	68	415	T. D. 710 ft.

Well 9/9W-31L1

Type of record: Driller's log.

Altitude: About 502 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Sandstone-----	11	26	Cemented sand (?)
Sand and gravel-----	8	34	
Shale, sandy, soft-----	22	56	Clay (?)
Pennsylvanian system:			
Middle series:			
Limestone-----	2	58	
Red rock-----	8	66	
Limestone, sandy-----	12	78	
Red rock-----	2	80	
Shale, sandy-----	36	116	
Limestone-----	1	117	
Shale, sandy-----	35	152	
Coal-----	2	154	
Shale, gray-----	5	159	
Sandstone-----	11	170	
Shale, sandy-----	20	190	
Coal-----	2	192	
Shale, light-----	16	208	
Shale, muddy-----	9	217	
Limestone-----	8	225	
Shale, sandy-----	10	235	
Shale, dark-----	5	240	
Shale, sandy-----	22	262	
Slate, light-----	73	335	
Shale, sandy-----	7	342	T. D. 708 ft.

Well 9/9W-31R1

Type of record: Driller's log.

Altitude: About 522 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface-----	30	30	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-31R1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, gray-----	29	59	
Coal-----	1	60	
Shale-----	14	74	
Limestone, brown-----	2	76	
Shale, sandy-----	2	78	
Limestone, broken-----	4	82	
Red rock-----	8	90	
Limestone-----	7	97	
Sandstone, broken, and limestone-	43	140	
Shale, dark-----	20	160	
Coal-----	3	163	
Shale, light-----	25	188	
Limestone, brown-----	4	192	
Shale, dark-----	8	200	
Coal-----	2	202	
Shale, dark-----	23	225	
Shale, light-----	15	240	
Limestone, sandy-----	4	244	
Sandstone-----	32	276	
Slate, black-----	4	280	
Shale, brown-----	74	354	
Slate, black-----	4	358	
Shale, gray-----	10	368	T. D. 730 ft.

Well 9/9W-32A1

Type of record: Driller's log.

Altitude: About 550 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and soil-----	12	12	
Pennsylvanian system:			
Middle (?) series:			
Sandstone-----	28	40	
Slate-----	3	43	
Coal-----	2	45	Gas
Coal-----	17	62	
Limestone, shell-----	2	64	
Red rock-----	6	70	
Slate-----	5	75	
Limestone-----	10	85	
Slate-----	15	100	
Limestone-----	10	110	
Sandstone-----	25	135	
Shale-----	25	160	
Coal-----	5	165	Gas
Fire clay-----	5	170	
Limestone-----	8	178	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-32A1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Slate-----	20	198	
Coal-----	6	204	Gas
Slate-----	41	245	
Limestone-----	3	248	
Slate-----	2	250	
Limestone, hard-----	4	254	
Coal-----	4	258	Gas
Limestone and fire clay-----	10	268	
Slate-----	12	280	
Shale-----	58	338	
Limestone-----	3	341	
Coal-----	4	345	Gas
Limestone-----	5	350	
Shale, sandy-----	5	355	
Sandstone-----	22	377	Gas
Coal-----	4	381	Gas
Shale-----	11	392	T. D. 561 ft.

Well 9/9W-32D1

Type of record: Driller's log.

Altitude: About 524 feet.

Quaternary system:		
Recent and Pleistocene series:		
Clay-----	12	12
Hardpan-----	14	26
Pennsylvanian system:		
Middle (?) series:		
Sandstone-----	21	47
Shale-----	22	69
Limestone-----	1	70
Shale-----	6	76
Red rock-----	3	79
Slate-----	6	85
Limestone-----	7	92
Shale-----	29	121
Limestone-----	6	127
Shale-----	13	140
Shale, sandy-----	24	164
Coal-----	2	166
Shale-----	10	176
Limestone-----	8	184
Unknown, gray-----	16	200
Slate-----	7	207
Coal-----	6	213
Shale, gray-----	25	238
Coal-----	1	239
Shale, gray-----	20	259

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 9/9W-32D1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Limestone-----	2	261	
Coal-----	2	263	
Shale, sandy-----	31	294	
Slate-----	50	344	
Coal-----	1	345	
Shale-----	2	347	
Coal-----	3	350	
Limestone-----	8	358	
Sandstone-----	50	408	T. D. 783 ft.

## Well 9/9W-33F1

Type of record: Driller's log.

Altitude: About 545 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	
Pennsylvanian system:			
Middle (?) series:			
Sandstone, white-----	45	65	W. B.
Shale, dark-----	15	80	
Shale, sandy-----	10	90	
Red rock-----	5	95	
Shale, sandy-----	5	100	W. B.
Limestone-----	3	103	
Shale-----	2	105	

## Well 9/9W-33H1

Type of record: Driller's log.

Altitude: About 540 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	8	8	
Shale, brown-----	8	16	Clay (?)
Shale, sandy-----	5	21	Do
Hardpan-----	9	30	
Pennsylvanian system:			
Middle (?) series:			
Sandstone-----	18	48	
Shale-----	93	141	
Sandstone-----	2	143	
Shale, sandy-----	10	153	
Shale-----	22	175	
Coal-----	3	178	
Shale, gray-----	13	191	
Limestone-----	9	200	
Shale-----	3	203	
Limestone-----	1	204	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 9/9W-33H1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle (?) series:			
Shale, sandy-----	13	217	
Coal-----	5	222	
Fire clay-----	3	225	
Limestone-----	2	227	
Shale-----	21	248	
Slate, black-----	3	251	
Limestone-----	2	253	
Shale-----	14	267	
Coal-----	2	269	
Shale, sandy-----	19	288	
Limestone-----	2	290	
Coal-----	4	294	
Shale-----	73	367	
Limestone-----	2	369	
Slate, black-----	3	372	
Coal-----	3	375	
Shale-----	40	415	
Slate, black-----	10	425	
Shale-----	20	445	
Coal-----	2	447	
Shale-----	28	475	
Limestone, sandy-----	5	480	
Shale-----	25	505	
Coal-----	4	509	

## Well 9/9W-34B1

Type of record: Driller's log.

Altitude: About 540 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Shale-----	5	20	Clay (?)
Hardpan-----	15	35	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	15	50	
Shale, gray-----	30	80	
Shale, limy-----	22	102	
Shale, gray-----	60	162	
Shale, dark-----	9	171	
Coal-----	3	174	
Shale, gray-----	9	183	
Sandstone-----	15	198	
Slate, dark-----	15	213	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-34F1

Type of record: Driller's log.

Altitude: About 540 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	17	17	
Hardpan-----	3	20	
Pennsylvanian system:			
Middle series:			
Shale-----	60	80	
Limestone-----	15	95	
Shale-----	10	105	
Shale, dark-----	30	135	
Sandstone-----	7	142	
Shale, gray-----	27	169	
Coal-----	3	172	
Shale, gray-----	10	182	
Sandstone-----	13	195	
Shale, dark-----	5	200	
Slate, black, and limestone-----	15	215	
Shale, gray-----	6	221	

Well 9/9W-34J1

Type of record: Driller's log.

Altitude: About 540 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	17	17	
Hardpan-----	11	28	
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	19	47	
Sandstone-----	3	50	W. B.
Shale, gray-----	15	65	
Sandstone-----	4	69	W. B.
Shale, light-----	19	88	
Limestone-----	2	90	

Well 9/9W-34J2

Type of record: Driller's log.

Altitude: About 540 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface-----	16	16	
Hardpan-----	9	25	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	3	28	
Shale, sandy-----	15	43	
Sandstone-----	5	48	W. B.
Shale, soft, gray-----	11	59	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-34J2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, dark-----	29	88	
Limestone-----	2	90	

Well 9/9W-34J3

Type of record: Driller's log.

Altitude: About 540 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	
Pennsylvanian system:			
Middle series:			
Shale-----	15	35	
Shale, sandy-----	12	47	
Shale, dark-----	21	68	
Coal-----	1	69	W. B.
Shale-----	2	71	W. B.
Limestone-----	1	72	W. B.
Shale, gray-----	15	87	W. B.
Limestone-----	17	104	W. B.
Shale, gray-----	11	115	
Shale, dark-----	19	134	
Limestone-----	2	136	
Shale, dark-----	11	147	
Shale, gray-----	3	150	
Limestone-----	2	152	
Shale, gray-----	16	168	
Slate-----	3	171	
Coal-----	4	175	Gas
Fire clay-----	4	179	
Shale, gray, and limestone-----	19	198	
Shale, gray-----	11	209	
Shale, dark-----	6	215	
Slate, black-----	9	224	
Fire clay-----	3	227	
Shale, gray-----	16	243	
Shale, dark-----	5	248	
Shale, gray-----	11	259	
Coal-----	1	260	Gas
Shale, gray-----	3	263	
Limestone, sandy-----	9	272	
Slate, dark-----	6	278	
Limestone-----	8	286	
Slate, black-----	8	294	Gas
Slate, gray-----	4	298	Gas
Coal-----	5	303	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-34K2

Type of record: Driller's log.

Altitude: About 540 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	25	25	
Hardpan, red-----	9	34	
Pennsylvanian system:			
Middle series:			
Shale, blue-----	6	40	
Shale, gray-----	6	46	
Limestone-----	1	47	
Shale, gray-----	13	60	
Limestone-----	3	63	
Shale, gray-----	7	70	
Shale, dark-----	3	73	
Sandstone-----	7	80	
Shale, gray-----	12	92	
Shale, sandy-----	46	138	
Shale, dark-----	27	165	

Well 9/9W-34K4

Type of record: Driller's log.

Altitude: About 540 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Hardpan-----	3	21	
Pennsylvanian system:			
Middle series:			
Shale-----	18	39	
Limestone-----	1	40	
Shale-----	4	44	
Red rock-----	3	47	
Shale-----	6	53	
Sandstone-----	5	58	
Shale, sandy-----	7	65	
Shale-----	15	80	
Limestone-----	4	84	
Shale, sandy-----	36	120	
Shale-----	34	154	
Coal-----	3	157	
Fire clay-----	6	163	
Shale-----	9	172	
Sandstone-----	3	175	
Shale, sandy-----	15	190	
Shale, dark-----	9	199	
Coal-----	5	204	
Fire clay-----	1	205	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/9W-34L1

Type of record: Driller's log.

Altitude: About 540 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	16	16	Clay (?)
Sand and gravel-----	4	20	
Shale, brown-----	20	40	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	21	61	
Limestone, sandy-----	2	63	
Shale, gray-----	7	70	
Slate-----	21	91	
Shale-----	9	100	
Shale, sandy-----	15	115	
Shale-----	45	160	
Limestone-----	1	161	
Shale-----	5	166	
Sandstone-----	11	177	

Well 9/9W-34N3

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Hardpan-----	12	30	
Pennsylvanian system:			
Middle series:			
Shale-----	25	55	
Coal-----	1	56	
Shale, gray-----	7	63	
Limestone-----	4	67	
Shale, gray-----	13	80	
Shale, dark-----	10	90	
Shale, gray-----	20	110	
Shale, sandy-----	34	144	
Shale, dark-----	22	166	
Coal-----	3	169	
Shale, gray-----	11	180	
Sandstone-----	6	186	
Shale, gray-----	9	195	
Slate-----	10	205	

Well 9/9W-36A1

Type of record: Driller's log.

Altitude: About 560 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	12	12	
Hardpan-----	14	26	



Table 2.--Selected well logs; Sullivan County, Indiana--Continued

## Well 9/10W-2L1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Limestone-----	2	177	
Shale, light-----	3	180	
Limestone-----	3	183	
Shale, gray-----	2	185	
Red rock-----	1	186	
Shale, gray-----	2	188	
Shale, sandy-----	20	208	
Shale, limy, broken-----	8	216	
Shale, gray-----	12	228	
Shale, sandy-----	22	250	
Limestone, sandy-----	14	264	
Sandstone-----	10	274	
Coal-----	4	278	
Fire clay-----	4	282	
Sandstone-----	24	306	
Shale, sandy, and gray slate-----	6	312	
Coal-----	5	317	
Shale-----	1	318	

## Well 9/10W-2Q1

Type of record: Driller's log.

Altitude: About 536 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	
Sand and gravel-----	24	44	
Pennsylvanian system:			
Middle series:			
Shale and limestone streaks-----	3	47	
Shale, gray-----	8	55	
Shale, sandy-----	21	76	
Slate-----	8	84	Trace of limestone at 76 ft.
Shale, gray-----	7	91	
Limestone, sandy-----	11	102	
Shale, gray-----	13	115	
Shale, dark-----	25	140	
Shale, gray-----	7	147	
Coal-----	2	149	
Shale, gray-----	7	156	
Limestone-----	2	158	
Shale, green-----	1	159	
Limestone-----	1	160	
Red rock-----	1	161	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/10W-5E1

Type of record: Driller's log.

Altitude: About 475 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Drift-----	10	10	
Pennsylvanian system:			
Middle series:			
Limestone-----	5	15	
Shale-----	3	18	
Limestone-----	12	30	
Shale-----	68	98	
Limestone-----	2	100	
Shale-----	50	150	
Sandstone-----	25	175	
Coal-----	2	177	Gas
Fire clay-----	8	185	
Sandstone-----	20	205	
Shale-----	89	294	
Limestone-----	6	300	
Coal-----	5	305	Gas
Limestone-----	5	310	

Well 9/10W-6A1

Type of record: Driller's log.

Altitude: About 455 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil-----	30	30	
Pennsylvanian system:			
Middle series:			
Shale-----	33	63	
Coal-----	2	65	
Shale-----	15	80	
Limestone, hard-----	10	90	
Shale, soft-----	25	115	
Limestone, hard-----	3	118	
Shale-----	9	127	
Sandstone-----	4	131	
Limestone-----	4	135	
Shale-----	35	170	
Coal-----	4	174	
Shale-----	11	185	
Limestone, sandy-----	9	194	
Shale-----	51	245	
Shale, sandy-----	35	280	
Limestone, blue-----	13	293	
Coal-----	2	295	
Sandstone-----	6	301	
Shale-----	6	307	
Limestone, shell, brown-----	33	340	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/10W-6A1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Sandstone-----	5	345	
Coal-----	6	351	
Sandstone-----	74	425	T. D. 2,174 ft.

Well 9/10W-11L1

Type of record: Driller's log.

Altitude: About 525 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	12	12	
Hardpan, sandy-----	19	31	
Pennsylvanian system:			
Middle series:			
Shale-----	23	54	
Slate, black-----	8	62	W. B.
Fire clay-----	2	64	
Limestone, broken-----	11	75	
Shale, light-----	4	79	
Shale, sandy-----	41	120	
Shale, light-----	3	123	
Coal-----	2	125	

Well 9/10W-15N1

Type of record: Driller's log.

Altitude: About 525 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	20	20	
Sand and gravel-----	10	30	
Hardpan-----	5	35	
Pennsylvanian system:			
Middle series:			
Sandstone-----	23	58	W. B.
Shale, sandy-----	7	65	
Shale, blue-----	10	75	

Well 9/10W-15P1

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	25	25	W. B.
Pennsylvanian system:			
Middle series:			
Shale, blue-----	4	29	
Limestone-----	1	30	
Shale, dark-----	5	35	W. B.



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/10W-15P1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Coal-----	1	36	
Shale, gray-----	6	42	
Limestone, brown-----	12	54	
Shale, gray-----	6	60	W. B.

Well 9/10W-15Q1

Type of record: Driller's log.

Altitude: About 520 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	24	24	
Hardpan-----	8	32	
Pennsylvanian system:			
Middle series:			
Limestone, trace-----	--	32	
Shale, gray-----	23	55	
Shale, dark-----	45	100	Trace of coal at 60 ft.
Shale, gray-----	10	110	
Limestone-----	1	111	
Sandstone, broken, and shale-----	24	135	
Slate, black-----	5	140	
Shale, gray-----	35	175	
Shale, dark-----	40	215	
Coal-----	3	218	
Fire clay-----	7	225	
Shale, gray-----	20	245	
Shale, dark-----	5	250	

Well 9/10W-16K1

Type of record: Driller's log.

Altitude: About 550 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soft formation-----	25	25	
Gravel and sand-----	10	35	
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	5	40	
Shale, dark-----	30	70	
Coal and sandstone-----	5	75	
Shale, dark-----	3	78	
Sandstone, light-----	12	90	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 9/10W-16N1

Type of record: Driller's log.

Altitude: About 565 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand-----	35	35	
Gravel-----	7	42	
Pennsylvanian system:			
Middle series:			
Shale, blue-----	8	50	
Sandstone-----	25	75	W. B.
Shale, sandy-----	5	80	

## Well 9/10W-16Q1

Type of record: Driller's log.

Altitude: About 545 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	13	13	
Hardpan-----	27	40	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	29	69	
Coal-----	2	71	
Fire clay-----	4	75	
Sandstone, dark-----	5	80	W. B.
Sandstone, light-----	10	90	W. B.
Shale, gray-----	3	93	
Shale, sandy-----	9	102	

## Well 9/10W-16Q2

Type of record: Driller's log.

Altitude: About 550 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand-----	10	10	
Shale, sandy-----	30	40	Clay (?)
Pennsylvanian system:			
Middle series:			
Shale, gray-----	25	65	
Shale, dark-----	4	69	
Limestone-----	1	70	
Coal, trace-----	--	70	
Shale, limy, broken-----	22	92	
Shale, gray-----	23	115	
Shale, dark-----	5	120	
Shale, gray-----	19	139	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/10W-16R1

Type of record: Driller's log.

Altitude: About 535 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, yellow-----	20	20	
Sand, gray-----	15	35	W. B.
Pennsylvanian system:			
Middle series:			
Shale, soft-----	10	45	
Shale, solid-----	6	51	
Limestone, trace-----	--	51	
Shale, dark-----	5	56	
Coal-----	1	57	
Fire clay, soft-----	6	63	
Shale, sandy-----	2	65	
Sandstone-----	15	80	
Shale-----	11	91	

Well 9/10W-17P1

Type of record: Driller's log.

Altitude: About 540 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand-----	18	18	
Shale, blue-----	12	30	Clay (?)
Hardpan-----	5	35	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	25	60	
Coal-----	2	62	
Fire clay-----	5	67	
Sandstone-----	14	81	W. B.
Limestone-----	1	82	
Shale, gray-----	23	105	
Shale, dark-----	3	108	
Coal-----	1	109	
Fire clay-----	3	112	
Shale, gray-----	3	115	
Limestone-----	2	117	
Shale, gray-----	2	119	
Limestone, sandy, brown-----	4	123	
Shale, gray-----	17	140	
Limestone-----	1	141	
Unknown, black-----	4	145	
Shale, gray-----	2	147	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/10W-18A1

Type of record: Driller's log.

Altitude: About 475 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Hardpan, sandy-----	22	22	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	14	36	
Coal-----	2	38	
Fire clay-----	2	40	
Shale, gray-----	28	68	
Shale, sandy, broken-----	27	95	
Shale, dark-----	9	104	
Limestone-----	3	107	
Slate, shaly, dark-----	7	114	

Well 9/10W-18D1

Type of record: Driller's log.

Altitude: About 453 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Fill on creek bed-----	30	30	
Sand, coarse, mud, and gravel----	20	50	W. B.
Sand, coarse, and gravel-----	3	53	W. B.
Gravel, coarse, and boulders-----	2	55	W. B.
Sand, medium, and gravel-----	21	76	W. B.

Well 9/10W-18E1

Type of record: Driller's log.

Altitude: About 446 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Silt, clayey, dark-brown; trace of very fine sand-----	3.2	3.2	
Silt, clayey, brown, with very fine sand-----	6.1	9.3	
Clay, silty, brown; trace of very fine sand-----	4.2	13.5	
Clay, silty, brown, and very fine sand-----	4.2	17.7	W. B.
Sand, fine, brown; trace of silty clay-----	2.8	20.5	W. B.
Sand, fine to coarse, brown; trace of small gravel, silt, and organic matter-----	8.3	28.8	W. B.
Sand, fine to coarse, gray; trace of small gravel, silt, and organic matter-----	5.7	34.5	W. B.
Sand, fine to coarse, gray, with small gravel; trace of silt----	2.5	37	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/10W-18E1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, fine to coarse, brown, and small to medium gravel; trace of silt-----	22.3	59.3	W. B.
Sand, fine to coarse, brownish- gray, with rock fragments; trace of silt-----	3.4	62.7	W. B.
Sand, fine to medium, brown; trace of silt-----	2.3	65	W. B.

Well 9/10W-18E5

Type of record: Driller's log. Altitude: About 444 feet.

Quaternary system:			
Recent and Pleistocene series:			
Silt, clayey, brown very fine sand-----	3.5	3.5	
Clay, silty, brown; trace of very fine sand-----	5.7	9.2	
Clay, brown; trace of silt and very fine sand-----	4	13.2	
Clay, silty, brown; trace of very fine sand-----	2.3	15.5	
Sand, fine to medium, silty, brown-----	8.5	24	W. B.
Sand, fine to coarse, brownish- gray and small to medium gravel; trace of silt, rock and limestone fragments-----	4.2	28.2	W. B.
Sand, fine to coarse, brown, and small to medium gravel; trace of silt-----	4.6	32.8	W. B.
Sand, fine to coarse, grayish- brown; trace of small gravel and silt-----	15.2	48	W. B.
Pennsylvanian system:			
Middle series:			
Limestone-----	1.2	49.2	
Shale, blue-----	3.8	53	

Well 9/10W-18F1

Type of record: Driller's log. Altitude: About 438 feet.

Quaternary system:			
Recent and Pleistocene series:			
Silt, clayey, dark-brown-----	2.5	2.5	
Clay, brown and gray; trace of silt-----	6.5	9	
Clay, silty, brown and gray-----	3.5	12.5	
Sand, fine to medium, gray; trace of silt-----	5	17.5	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/10W-18F1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, fine to coarse, gray, and small gravel-----	13	30.5	
Pennsylvanian system:			
Middle series:			
Shale, blue-----	3.7	34.2	

Well 9/10W-18Q1

Type of record: Driller's log.

Altitude: About 510 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	15	15	
Hardpan-----	12	27	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	2	29	
Shale, gray-----	12	41	
Coal-----	1	42	
Shale, dark-----	3	45	
Sandstone, gray-----	23	68	
Shale, gray-----	8	76	
Coal-----	3	79	
Shale, gray-----	30	109	
Limestone-----	3	112	
Sandstone-----	31	143	
Limestone-----	7	150	
Shale-----	15	165	
Sandstone-----	20	185	
Shale-----	7	192	

Well 9/10W-19A1

Type of record: Driller's log.

Altitude: About 520 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Hardpan-----	5	20	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	23	43	
Shale, gray-----	34	77	
Coal-----	2	79	
Fire clay-----	5	84	
Shale, dark-----	25	109	
Limestone-----	1	110	
Shale, sandy, gray-----	30	140	
Shale, dark-----	4	144	
Limestone-----	5	149	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/10W-20G1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, gray-----	35	60	
Shale, gray, and gravel-----	15	75	W. B., concretions (?)
Shale, gray-----	25	100	
Coal-----	5	105	
Shale, gray-----	20	125	
Limestone-----	8	133	
Coal-----	2	135	
Slate, dark-----	35	170	
Shale, sandy-----	50	220	
Slate-----	47	267	
Red rock-----	2	269	
Limestone-----	3	272	
Slate-----	18	290	
Sandstone-----	10	300	
Shale, sandy-----	55	355	
Coal-----	5	360	
Slate-----	15	375	
Limestone-----	5	380	T. D. 2,556 ft.

Well 9/10W-20N2

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

Quaternary system:			
Recent and Pleistocene series:			
Sand-----	12	12	
Shale, soft, blue-----	23	35	Clay (?)
Pennsylvanian system:			
Middle series:			
Shale, gray-----	15	50	
Shale, dark-----	12	62	
Coal-----	1	63	W. B.
Fire clay-----	4	67	
Sandstone-----	15	82	W. B.
Shale-----	2	84	
Limestone-----	2	86	
Shale-----	4	90	
Coal-----	14	104	
Shale, gray-----	24	128	
Limestone-----	5	133	

Well 9/10W-22R1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	20	20	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/10W-22R1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Hardpan-----	21	41	Clay (?)
Sand-----	1	42	
Shale, green-----	8	50	
Hardpan-----	15	65	
Pennsylvanian system:			
Middle series:			
Shale, dark-----	8	73	
Limestone-----	3	76	
Slate-----	3	79	
Coal-----	1	80	
Shale, gray-----	5	85	

Well 9/10W-23G1

Type of record: Driller's log.

Altitude: About 500 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	12	12	Cemented sand (?)
Sandstone-----	2	14	
Sand-----	2	16	
Hardpan-----	44	60	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	15	75	
Slate-----	25	100	
Coal-----	1	101	
Shale, gray-----	19	120	
Red rock-----	7	127	
Shale-----	2	129	
Limestone-----	10	139	
Shale, gray-----	11	150	
Shale, sandy-----	35	185	
Shale-----	2	187	
Shale, sandy-----	23	210	
Coal-----	4	214	
Fire clay-----	3	217	
Shale-----	33	250	
Coal-----	6	256	

Well 9/10W-24B1

Type of record: Driller's log.

Altitude: About 520 feet.

Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	27	27	W. B.
Hardpan and sand-----	25	52	
Sand and gravel-----	8	60	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/10W-24M1

Type of record: Driller's log.

Altitude: About 510 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	24	24	
Sand and gravel-----	67	91	
Pennsylvanian system:			
Middle series:			
Shale, black-----	19	110	
Shale, light-----	30	140	
Limestone, sandy-----	10	150	W. B.
Shale, dark-----	10	160	
Shale, sandy-----	23	183	

Well 9/10W-25F1

Type of record: Driller's log.

Altitude: About 518 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Sand and gravel-----	34	49	
Pennsylvanian system:			
Middle series:			
Shale, gray-----	61	110	
Limestone-----	2	112	
Shale, red-----	1	113	
Shale, sandy, gray-----	9	122	
Limestone, gray-----	5	127	
Sandstone-----	6	133	
Shale, gray-----	13	146	
Shale, silty, gray-----	55	201	
Coal-----	4	205	
Shale, gray-----	10	215	
Sandstone-----	7	222	
Shale, light-gray-----	23	245	
Coal-----	4	249	Gas
Shale, light-gray-----	48	297	
Shale, dark-gray-----	6	303	
Shale, gray-----	5	308	
Shale, sandy, gray-----	19	327	
Shale, silty to sandy-----	8	335	
Shale, dark-gray-----	48	383	T. D. 810 ft.

Well 9/10W-25M1

Type of record: Driller's log.

Altitude: About 505 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	12	12	
Gravel-----	3	15	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/10W-25M1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Hardpan-----	27	42	
Gravel-----	3	45	W. B.

Well 9/10W-26D1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay and sand-----	30	30	
Sand and gravel-----	42	72	W. B.
Hardpan-----	8	80	

Well 9/10W-28Q1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Hardpan-----	22	37	W. B. 16 to 20 ft.
Shale, green-----	25	62	Clay (?)
Pennsylvanian system:			
Middle series:			
Limestone-----	2	64	
Shale, gray-----	26	90	
Shale, dark-----	5	95	
Coal-----	2	97	Gas
Fire clay-----	3	100	
Shale, gray-----	5	105	
Sandstone-----	18	123	
Shale, gray-----	9	132	
Shale, dark-----	11	143	

Well 9/10W-28Q2

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

Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	40	40	
Hardpan-----	5	45	
Gumbo, yellow-----	15	60	
Pennsylvanian system:			
Middle series:			
Sandstone, gray-----	40	100	W. B. 98 to 100 ft.
Coal-----	4	104	
Fire clay-----	2	106	
Sandstone-----	11	117	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/10W-30P1

Type of record: Driller's log.

Altitude: About 530 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Record missing-----	21	21	
Pennsylvanian system:			
Middle series:			
Shale-----	8	29	
Sandstone-----	11	40	W. B.
Shale, sandy-----	19	59	
Shale, dark-----	3	62	
Coal-----	3	65	
Fire clay-----	8	73	
Shale, sandy-----	17	90	
Limestone, sandy-----	10	100	
Shale-----	25	125	
Slate, black-----	5	130	
Sandstone-----	5	135	W. B.
Shale, black-----	15	150	
Sandstone-----	10	160	W. B.
Shale, sandy-----	6	166	
Limestone, blue-----	4	170	
Coal-----	4	174	
Shale, light-----	16	190	

Well 9/10W-31A1

Type of record: Driller's log.

Altitude: About 530 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	25	25	
Hardpan-----	10	35	
Shale, yellow-----	7	42	Clay (?)
Shale, blue-----	6	48	Clay (?)
Pennsylvanian system:			
Middle series:			
Limestone-----	1	49	
Shale, dark-----	11	60	W. B.
Shale, sandy, broken-----	10	70	
Shale, gray-----	18	88	
Slate, black; coal, and limestone	3	91	W. B.
Shale-----	5	96	
Limestone, brown-----	1	97	
Shale-----	3	100	W. B.

Well 9/10W-31P1

Type of record: Driller's log.

Altitude: About 510 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	18	18	
Hardpan-----	22	40	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/10W-33K1

Type of record: Driller's log.

Altitude: About 500 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	15	15	
Hardpan-----	40	55	
Gravel-----	1	56	
Pennsylvanian system:			
Middle series:			
Sandstone, broken-----	12	68	
Shale, dark-----	13	81	
Limestone-----	--	81	

Well 9/10W-33N1

Type of record: Driller's log.

Altitude: About 505 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Sandstone-----	2	20	Cemented sand (?)
Gravel-----	77	97	
Pennsylvanian system:			
Middle series:			
Limestone-----	8	105	W. B.
Shale-----	18	123	
Shale, sandy-----	10	133	
Slate-----	4	137	
Coal-----	1	138	
Shale-----	4	142	
Sandstone-----	33	175	W. B.
Shale, dark-----	25	200	

Well 9/10W-34G1

Type of record: Driller's log.

Altitude: About 490 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Dug well-----	26	26	
Hardpan-----	25	51	
Shale, dark-----	10	61	Clay (?)
Sand-----	3	64	W. B.

Well 9/10W-35L2

Type of record: Driller's log.

Altitude: About 470 feet.

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Clay, yellow-----	8	8	
Gumbo, sandy-----	22	30	
Hardpan-----	9	39	

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

## Well 9/10W-35L2--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, dark-----	2	41	
Sandstone-----	14	55	
Coal-----	1	56	
Fire clay-----	6	62	
Shale, sandy-----	33	95	
Slate, gray-----	15	110	
Coal-----	4	114	
Fire clay-----	4	118	
Shale, dark-----	17	135	
Limestone, hard-----	10	145	
Shale, dark-----	5	150	

## Well 9/11W-12R1

Type of record: Driller's log.

Altitude: About 442 feet.

Quaternary system:			
Recent and Pleistocene series:			
Sand, very fine, clayey, brown, with silt-----	7.2	7.2	
Sand, fine, brown, with silty clay-----	2.5	9.7	
Sand, fine, brown; trace of silty clay-----	5.3	15	
Sand, fine to coarse, brown; trace of silt-----	12.7	27.7	W. B.
Sand, fine to coarse, silty, brown, with small to medium gravel, and limestone frag- ments-----	10.8	38.5	W. B.
Sand, fine to coarse, brown, with silty clay; trace of small gravel-----	10.5	49	W. B.
Sand, fine to coarse, brown; trace of small gravel and silt- -----	8.7	57.7	W. B.
Sand, fine to medium, brown, with large gravel; trace of silt---	5.3	63	W. B.
Sand, fine to coarse, brown, with small gravel; trace of silt---	17	80	W. B.

## Well 9/11W-13A1

Type of record: Driller's log.

Altitude: About 440 feet.

Quaternary system:			
Recent and Pleistocene series:			
Top soil and clay-----	16	16	
Clay, sandy-----	3	19	
Sand, brown, and gravel-----	7	26	W. B.

Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/11W-13A1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Quaternary system:			
Recent and Pleistocene series:			
Sand, medium-----	4	30	W. B.
Sand, coarse, and gravel-----	26	56	W. B.

Well 9/11W-13A2

Type of record: Driller's log. Altitude: About 441 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, silty, brown, with very fine sand and wood-----	2.5	2.5	
Clay, silty, very fine sand, brown-----	10.5	13	
Sand, fine to medium, silty, gray, with clay-----	1	14	
Sand, fine to coarse, gray, and small gravel-----	2	16	W. B.
Sand, fine to coarse, brown, and small gravel-----	27.5	43.5	W. B.
Sand, fine to medium, brown-----	2.5	46	W. B.
Sand, fine to coarse, brown, and small gravel-----	19	65	W. B.

Well 9/11W-13A5

Type of record: Driller's log. Altitude: About 442 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay, silty, brown, and top soil-	2.5	2.5	
Clay, silty, brown, with very fine sand-----	10	12.5	
Sand, fine to coarse, gray, with small gravel-----	15.5	28	
Sand, fine to coarse, brown, with small to medium gravel----	9	37	
Sand, fine to coarse, brown, with small gravel-----	18	55	

Well 9/11W-25C1

Type of record: Driller's log. Altitude: About 455 feet.

Quaternary system:			
Recent and Pleistocene series:			
Soil and loose rock-----	5	5	
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	20	25	
Shale-----	9	34	



Table 2.--Selected well logs, Sullivan County, Indiana--Continued

Well 9/11W-25C1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Coal-----	3	37	W. B.
Shale-----	13	50	
Shale, sandy-----	15	65	
Sandstone-----	5	70	

Well 9/11W-25C2

Type of record: Driller's log.

Altitude: About 455 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay and hardpan-----	9	9	
Pennsylvanian system:			
Middle series:			
Sandstone, red-----	4	13	W. B.
Shale, sandy-----	7	20	
Shale, gray-----	13	33	W. B.
Slate, dark-----	3	36	
Coal-----	2	38	
Fire clay-----	3	41	
Shale, dark-----	30	71	W. B.
Limestone, hard-----	3	74	
Sandstone, light-----	14	88	
Shale, sandy, dark-----	12	100	

Table 3.--Field chemical analyses of water from wells, Sullivan County, Indiana

(Results in parts per million)

Well number: See text for description of well-numbering system.

Geologic age: P1, Pleistocene; P, Pennsylvanian

Material: C, coal; G, gravel; Ls, limestone; S, sand; Sd-Ls, sandy-limestone; Sd-Sh, sandy-shale; Ss, sandstone; Sh, shale; T, till.

Well	Material	Geologic Age	Date of Collection	Temperature (°F)	Iron (Fe)	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Hardness as CaCO <sub>3</sub> (Calcium, magnesium)	Remarks
6/8W-5D1	Ss,C Sh	P	8-13-59	58	0.5	444	28	6	216	
10N1	-----	P	8-13-59	58	3.0	854	1,070	50	1,600	
12Q1	Ls	P	8-13-59	60	.1	1,540	22	632	26	
17Q1	Ss,C	P	8-13-59	59	.5	1,300	20	464	12	
18C2	-----	P	3-25-60	49	.1	337	46	72	204	
20B1	Ls,Ss	P	8-13-59	58	.5	478	28	8	244	
6/9W-2A1	Ss,C	P	8-18-59	58	.5	547	11	7	372	
2C1	Ss	P	8-14-59	--	.1	425	52	42	332	
10K1	-----	P	8-14-59	59	.1	1,050	22	208	31	
10P1	Ss	P	8-14-59	--	.3	810	22	17	12	
14G2	Ss,Ls	P	8-14-59	58	.1	600	95	98	620	
14G4	Ss,Ls	P	8-14-59	--	.1	649	44	21	42	
15B1	Sd-Sh	P	8-18-59	57	2.5	517	8	9	88	
20B1	-----	P	3-24-60	--	.3	498	135	24	512	
20J1	Ss,Ls	P	8-18-59	59	.3	586	31	23	432	
21L1	-----	P	8-18-59	59	.1	654	13	6	280	
22A1	Ls	P	8-18-59	58	.3	386	185	104	816	
23P1	Ss,Ls	P	10-7-59	--	1.0	722	14	18	120	
23P2	S,G	P1	10-7-59	60	2.0	586	15	102	180	
25J1	-----	P	2-27-58	54	.1	395	-----	82	464	
27C1	Ss	P	8-18-59	54	3.0	615	10	10	132	
27E1	S,G	P1	8-18-59	--	.5	542	12	176	70	Source question-able

6/9W-29E1	Ss	P	8-18-59	58	0.3	464	11	5	244
34D1	Ss	P	8-18-59	--	.3	742	12	14	38
35K1	S	P1	3-30-60	50	.3	249	40	10	268
7/8W- 2C1	Sh	P	8-18-59	--	1.0	200	605	9	644
	Ss,	P							
	Sd-Sh	P							
2C2	Ss	P	10-20-59	--	.5	444	1,850	28	2,150
2E1	Sd-Sh	P	12-23-57	--	.3	639	-----	8	572
	C	P							
2F1	Ss, Ls	P	8-18-59	--	.5	254	235	9	312
2F2	Sd-Sh	P	8-18-59	--	7.5	439	1,240	50	1,480
3A3	Ss	P	3-22-60	54	.5	512	630	10	952
	Sd-Ls	P							
	C	P							
8E1	C	P	3-30-60	--	.5	268	44	16	92
9A1	-----	P	3-22-60	--	.3	38	240	94	292
9D1	-----	P	2-26-58	52	1.0	142	-----	31	112
10N1	Ss	P	8-18-59	63	> 7.5	522	3,320	12	2,490
18F1	Ss	P	10-14-59	--	.5	200	170	14	200
18K1	Ss	P	8-18-59	--	.5	0	235	94	262
19H1	Ss	P	3-23-60	50	7.5	542	240	20	548
32E1	Sd-Sh	P	8-18-59	55	2.5	605	10	34	264
7/9W- 1C1	C	P	11-25-57	--	.3	393	-----	6	312
3G1	C, Ss	P	8-18-59	--	.5	551	11	34	24
4J1	Ss	P	11-25-57	54	2.0	573	-----	38	180
4J2	Ss	P	11-25-57	54	.1	573	-----	76	498
5J1	Sd-Sh	P	10- 7-59	--	.1	659	38	32	124
	Ss	P							
5P1	Sd-Sh	P	1957	56	.1	503	-----	6	176
8P1	Ss	P	8-18-59	--	1.0	664	14	154	78
8R1	Ss	P	11-25-57	55	7.5	569	-----	308	454
9A1	Ss, Ls	P	3-23-60	52	.1	532	33	52	288
9H1	-----	P	10- 7-59	59	.1	483	25	28	304
10D1	-----	P	10-14-59	--	3.0	454	22	10	248
14A1	Sd-Sh	P	8-18-59	--	.1	903	11	51	12
	C	P							

Table 3.--Field chemical analyses of water from wells, Sullivan County, Indiana--Continued

Well	Material	Geologic Age	Date of Collection	Temperature (°F)	Iron (Fe)	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Hardness as CaCO <sub>3</sub> (Calcium, magnesium)	Remarks
7/9W-16B2	C	P	3-23-60	53	1.0	1,770	60	1,180	60	
16D1	Ss	P	8-18-59	--	.3	517	18	14	316	
22Q1	Ss	P	10-7-59	--	1.0	215	15	10	176	
23E1	Ss	P	1957	52	.1	190	-----	32	338	
25E1	Ss	P	8-18-59	--	.3	498	95	20	452	
26E1	Ss	P	8-18-59	57	.3	410	185	58	496	
26E2	Ss	P	2-27-58	54	1.0	132	-----	40	260	
26G1	-----	P	11-26-57	59	5.0	329	-----	16	282	
26N1	Ss	P	8-18-59	--	.3	254	97	36	252	
27D1	Ss	P	8-18-59	58	1.0	444	11	7	216	
27H1	Ss	P	10-7-59	--	2.5	434	66	24	336	
27L1	Ss	P	8-18-59	--	1.5	122	55	144	352	
27R1	Ss	P	12-27-57	54	.5	307	-----	50	308	
28N1	S(?) G(?)	P1 P1	10-7-59	--	2.5	473	61	10	400	
30G1	Ss, Ls	P	12-3-57	--	.5	730	-----	27	185	
33C1	Ss	P	8-18-59	59	.3	454	17	12	356	
35D1	Ss	P	8-18-59	--	>7.5	327	210	23	392	
7/10W-2C1	Ss, C	P	10-8-59	65	.3	1,140	11	420	8	
4A1	Ss	P	12-3-57	--	1.0	600	-----	21	242	
4J1	Ss	P	10-8-59	--	.1	176	74	26	248	
6K1	-----	P	3-23-60	--	.1	429	8	6	192	
6L1	C	P	12-3-57	55	0	508	-----	26	566	
8H1	Ss	P	8-20-59	--	1.0	771	11	720	150	
10B1	Ss	P	8-20-59	56	>7.5	400	38	10	180	
16E1	Ss	P	12-3-57	--	.3	547	-----	68	128	
17N1	Ss	P	10-8-59	--	.3	761	12	52	22	
18C2	C	P	8-20-59	--	1.5	576	27	7	380	
21R1	S	P1	3-23-60	50	3.0	381	5	6	252	
23C1	Ss	P	3-23-60	--	.1	561	160	52	548	

7/10W-25B1	Ls,C	P	10- 8-59	62	0.1	864	10	60	90
28A1	G	P1	1958	52	.1	178	---	16	256
28B1	G	P1	8-20-59	58	.3	356	39	4	312
8/8W- 6L1	C	P	10-21-59	--	.3	517	10	16	148
14L1	Ss	P	1958	52	.4	390	---	6	240
17N1	S,G	P1	10-22-59	--	.1	259	975	36	1,160
24M1	S,G	P1	2-27-58	56	>7.5	405	---	15	348
31H1	C	P	10-21-59	--	.1	146	28	8	92
31K1	-----	P1(?)	12-23-57	55	.1	288	---	26	380
33N1	Ss	P	11-20-57	--	.3	822	---	24	1,570
34J1	Ss	P	10-20-59	56	.5	249	975	44	1,030
34R1	Sd-Ls	P	10-20-59	--	.1	420	760	22	1,020
35M1	Ss	P	10-20-59	58	2.0	303	345	30	448
35M2	Ss	P	12-23-57	56	3.0	166	---	6	1,410
36H1	Ss	P	10-20-59	52	.3	874	12	60	6
36N1	Ss	P	11- 3-59	57	1.0	800	115	30	128
8/9W- 1R1	Ss	P	3-30-60	--	2.5	854	105	38	180
5B1	Ss	P	10-20-57	--	.3	332	47	16	184
5H1	Ss	P	12-16-57	56	.1	373	---	68	584
6C1	-----	-----	12-16-57	54	>7.5	529	---	30	234
7H1	Ss	P	10-20-59	58	.1	932	12	216	10
8N1	Ss	P	1957	52	.1	637	---	20	84
8R1	Ss	P	11- 3-59	56	1.0	615	15	52	52
10E1	G	P1	10-20-59	54	.5	312	8	8	152
10H1	Ss,Ls	P	10-20-59	--	.3	307	21	24	220
16A1	Ss,Sh	P	2-24-60	--	.5	542	12	124	172
16H1	Ss	P	2-24-60	--	.1	381	100	154	508
20G1	Ss	P	2-24-60	--	.1	488	10	8	80
23L1	Ss	P	10-20-59	57	2.0	595	15	26	104
23M1	Ls	P	2-27-58	--	.1	547	---	19	316
23P1	Ss	P	12-12-57	--	.1	654	---	40	8
23R1	S	P1	10-19-59	56	1.5	400	12	16	144
25N1	Ss(?)	P	3-22-60	--	1.0	610	10	30	120
28M1	Ss,Ls	P	10-16-59	--	.5	605	12	38	128
28Q1	Ss	P	3-21-60	--	2.0	893	270	42	616
29Q1	C,Ss	P	3-21-60	52	2.5	556	13	20	240

Table 3.--Field chemical analyses of water from wells, Sullivan County, Indiana--Continued

Well	Material	Geologic Age	Date of Collection	Temperature (°F)	Iron (Fe)	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Hardness as CaCO <sub>3</sub> (Calcium, magnesium)	Remarks
8/9W-29R1	Ss, Ls	P	10-16-59	--	0.1	625	14	140	124	
30Q1	-----	P	11- 3-59	--	.1	1,250	20	412	14	
33A1	Ss	P	10-16-59	56	3.0	659	16	32	224	
33N1	Ss	P	10-16-59	57	1.5	434	12	12	260	
34P1	S	P1	2-24-60	56	.1	332	63	16	268	
36R1	Ss	P	10-16-59	57	5.0	561	12	10	304	
8/10W-3D1	Ss	P	10-14-59	57	.3	346	99	192	616	
4Q1	-----	P	10-14-59	--	.5	527	13	284	160	
5J1	Ss	P	11- 3-59	58	1.0	527	15	70	156	
6N1	Ss	P	12- 9-57	54	1.0	551	-----	54	22	
7D1	S, G	P1	12- 5-57	54	1.0	608	-----	58	180	
7E1	S	P1	12- 5-57	--	5.0	593	-----	38	335	
8A1	Ss	P	10-14-59	57	1.0	595	12	16	208	
10D1	-----	P	2-11-60	--	.1	644	11	14	68	
15E1	Ss	P	3-23-60	56	.1	259	93	134	436	
16C1	Ls	P	10-14-59	57	.3	254	20	10	136	
16D1	Ss, Ls	P	2-11-60	--	.1	181	45	46	176	
17H1	C, Ss	P	1957	52	.1	266	-----	12	216	
18C1	Ss	P	10-15-59	--	2.0	659	7	548	140	
18J3	Ss	P	2-24-60	53	.5	268	22	16	172	
19A1	Ss	P	3- 4-58	--	>7.5	410	-----	16	300	
19D1	-----	P	2-24-60	52	.5	444	165	132	764	
19J2	Ss	P	3-26-57	56	.1	210	-----	66	380	
19J5	Ss	P	11- 3-59	--	.3	483	70	8	368	
19P1	Ss	P	2-24-60	54	.3	547	11	18	48	
20M1	Ss	P	11- 3-59	--	.3	244	85	14	264	
21K1	Sd-Ls	P	10-15-59	--	.5	1,390	11	1,370	34	
22J1	Sh, Ss	P	2-11-60	50	.1	839	8	248	14	
22M1	Ss	P	12-10-57	--	2.0	139	-----	19	64	
	Sd-sh	P								
	Ss	P								

8/10W-23G1	P	10-15-59	--	1.5	439	12	64	100
23R1	P	12-11-57	--	.5	642	-----	48	84
24G1	P	12-10-57	--	.1	366	-----	50	468
25J1	P	10-15-59	--	.3	376	15	100	30
25M1	P	2-26-58	--	.5	1,540	-----	764	42
26B1	P	10-15-59	--	.3	625	32	14	208
26P2	P	11- 3-59	--	.3	1,580	16	1,190	22
27P1	P	1957	56	.1	527	-----	38	92
28N1	P	10-14-59	57	.5	468	8	16	140
30J2	P1	2-11-60	--	7.5	581	50	56	504
30N1	P	2-11-60	--	.1	371	110	36	436
31L1	P	12-11-57	--	.5	508	-----	428	27
31L2	P	12-11-57	--	1.5	379	-----	124	74
32D1	P	11- 3-59	--	.3	346	25	7	276
32E1	P1	11- 3-59	--	.3	312	35	10	276
34J1	P	10-14-59	--	.1	1,490	13	608	26
34M1	P	10-14-59	--	.3	644	11	74	30
35F1	P	10-14-59	--	.5	1,340	12	1,660	32
35F2	P	10-14-59	--	1.0	1,390	17	1,950	48
36G1	P	3-30-60	52	.1	1,330	73	844	120
8/11W-1K1	P1	10-14-59	57	5.0	664	14	96	236
11J1	P1	10- 9-59	--	1.5	522	12	90	252
12C1	P1	2-11-60	--	.5	264	7	40	152
12G2	P	10- 9-59	--	2.5	625	17	78	212
14F1	P1	10- 9-59	57	.3	371	25	44	240
14H1	P(?)	12- 4-57	--	.3	85	-----	142	228
23G1	P1	11- 3-59	54	.5	298	45	14	268
23G2	P1	10- 8-59	57	1.0	239	24	7	192
23J1	P	10- 8-59	--	.5	473	340	30	360
23K1	P	11- 3-59	54	.5	288	40	10	272
24B1	P	10- 8-59	58	.1	322	13	14	300
24D2	P1	2-11-60	--	7.5	381	18	6	284
24D3	P	2-11-60	--	2.0	512	74	14	464
24L1	P	10- 8-59	--	.1	512	8	10	76
	Ps							

Table 3.--Field chemical analyses of water from wells, Sullivan County, Indiana--Continued

Well	Material	Geologic Age	Date of Collection	Temperature (°F)	Iron (Fe)	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Hardness as CaCO <sub>3</sub> (Calcium, magnesium)	Remarks
8/11W-24M1	Ss	P	12- 4-57	53	0.4	510	-----	16	364	
24P1	Sd-Ls	P	12-15-57	--	5.0	566	-----	0	163	
25H1	Ls,C	P	2-11-60	--	1.0	444	8	6	188	
29G1	Ls	P	2-11-60	55	.3	371	76	12	332	
9/8W-	G	P1	2-11-60	--	.3	429	24	7	248	
	Ss	P	12-31-59	--	.1	439	-----	8	306	
	Ss	P	4-57	52	.3	459	10	2	172	
	Ss	P	8-25-59	--	.3	703	9	6	12	
	Ss	P	10-21-59	56	.3	698	-----	16	38	
	Ss	P	1-20-58	54	.3	630	-----	12	120	
	Ss, Ls	P	1-20-58	54	1.0	722	-----	220	78	
	Ss	P	1-20-58	54	.1	571	-----	31	280	
	Ss, Ls	P	2-18-58	--	.3	754	-----	10	20	
	Ss	P	4-57	56	.1		-----			
9P1	G(?)	P1(?)	10-21-59	58	.1	932	8	28	7	
10G1	Ss	P	1-20-58	54	.5	449	-----	22	42	
11D1	S	P1	11- 4-59	--	2.5	478	85	16	400	
13R1	-----	-----	3-30-60	--	.1	156	150	118	236	
16B1	Ss	P	1-21-58	--	.3	1,040	-----	20	4	
16G1	Ss	P	10-21-59	--	.3	20	16	300	92	
17C1	Ss	P	11- 4-59	--	.1	976	15	70	16	
20A1	Sd-Ls	P	10-21-59	--	.3	420	85	46	364	
21A1	C	P	11- 4-59	--	.1	893	15	32	5	
21B1	Ss	P	10-21-59	--	1.0	747	15	26	56	
21R1	G	P1	10-21-59	--						
	Sd-Sh	P								
	Ls	P								
	Ss	P	10-21-59	--	.1	903	11	46	4	
	Ss	P	2- 9-60	51	.3	146	78	26	264	
24H1	-----	P	10-21-59	57	1.5	444	85	22	308	



9/8W-27P1	Ss	P	4-57	--	0.1	722	---	30	8
28G2	Ss	P	1-21-58	--	.3	820	---	52	8
28G5	Ss,C	P	3-22-60	--	.1	786	10	86	8
28Q1	Ls,Ss	P	2- 9-60	--	.1	908	10	60	8
30P1	Ss	P	11- 4-59	55	7.5	473	75	16	372
32D1	-----	P	10-21-59	--	.5	146	165	248	300
9/9W- 1K1	Ss,C	P	-----	56	.1	76	---	4	116
4C2	Ss	P	2-10-60	--	.3	795	12	264	18
4J1	Ss	P	2-10-60	53	.3	727	8	572	28
5N1	G	P1	10-21-59	57	2.0	512	12	20	136
7A1	Ss	P	2-10-60	--	1.0	346	230	78	420
8B1	Ss,Ls	P	10-21-59	--	1.5	610	59	58	184
9D1	Ss	P	10-21-59	--	.1	844	13	964	74
9G1	Sd-Sh	P	10-21-59	60	2.0	1,500	165	3,400	138
11A1	Sd-Sh	P	2-18-58	--	1.0	1,380	---	596	17
11N1	Sd-Sh	P	2-10-60	--	.1	766	5	18	10
13G1	Ss,Ls	P	2-19-58	--	.1	532	---	21	192
14H1	Ls,C	P	10-22-59	57	.5	415	90	48	304
14J1	Ss	P	2-19-58	--	.1	488	---	12	182
15R2	Ls	P	11- 4-59	58	.1	825	25	42	16
16J1	Sd-Sh	P	10-22-59	---	.5	761	13	240	30
19A1	Ls,C	P	8-22-59	--	2.5	556	12	176	160
20G1	S	P1	2-10-60	--	1.0	576	12	824	112
21P1	-----	P	10-22-59	---	.3	449	8	38	14
23C1	Ss	P	10-22-59	--	.1	761	12	14	58
23H1	Sd-Ls	P	10-22-59	---	.3	381	95	16	344
23N1	Ss	P	2-19-58	--	.1	669	---	15	72
26L1	Sd-Sh	P	2-18-58	---	.3	742	---	24	36
27D1	C	P	10-22-59	---	.3	29	250	352	648
33F1	Sd-Ls	P	10-22-59	---	.3	322	110	88	484
	Ss	P		---					
	Sd-Sh	P		---					

Table 3.--Field chemical analyses of water from wells, Sullivan County, Indiana--Continued

Well	Material	Geologic Age	Date of Collection	Temperature (°F)	Iron (Fe)	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Hardness as CaCO <sub>3</sub> (Calcium, magnesium)	Remarks
9/9W-36A1	Ss	P	1-21-58	--	0.5	354	-----	34	592	
36C1	Ss	P	10-22-59	--	.3	478	110	60	504	
9/10W-15N1	Ss	P	11-4-59	--	-----	195	40	26	92	Oil in water
15P1	T	P1	2-10-60	--	.1	322	58	12	300	
16K1	Sh,C	P	2-10-60	52	.3	454	8	12	144	
17P1	-----	-----	11-4-59	--	1.0	556	20	302	148	
19R1	Ss	P	2-19-58	--	1.0	688	-----	180	188	
20E1	Ls,S1	P	2-20-58	--	2.5	747	-----	222	158	
22R1	-----	P	2-20-58	--	3.0	630	-----	54	354	
24B1	S,G	P1	11-4-59	55	.5	473	10	66	96	
26D1	S,G	P1	2-20-58	--	1.5	498	-----	27	244	
30P1	Ss	P	11-4-59	56	.3	1,010	-----	4,480	168	
31A1	Sh,C	P	2-19-58	--	.5	708	-----	76	202	
31P1	Ls	P	4-57	--	.1	534	-----	566	0?	
31Q1	Ss,Ls	P	11-4-59	--	.1	800	20	220	72	
33H1	S	P1	4-57	--	1.0	473	-----	86	252	
33K1	-----	-----	11-5-59	56	.1	488	15	26	228	
33N1	Ss,Ls	P	11-4-59	57	.1	190	25	18	132	

Table 4.--Records of springs, Sullivan County, Indiana

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

Geologic age: P1, Pleistocene; P, Pennsylvanian.  
 Flow: e, estimated; m, measured.  
 Use: N, not used; S, stock.  
 Field chemical analyses: In parts per million; water samples collected on date of measurement.

Spring	8/10W-18N1	8/11W-13R1	8/11W-24Q2
Owner	R. D. Medsker	-----	P. Medsker
Popular name	Ridgeway Sulphur Spring	-----	Boiling Springs
Altitude (feet)	530	510	500
Water-bearing material	Ss	Ss	S,G
Geologic age	P	P	P1
Flow (gpm)	2e	-----	40m
Date of measurement	9-13-60	9-13-60	9-12-60
Use	S	N	S
Temperature (°F)	57	57	56
Iron (Fe)	0.5	5.0	0.2
Bicarbonate (HCO <sub>3</sub> )	283	425	366
Sulfate (SO <sub>4</sub> )	25	50	40
Chloride (Cl)	16	10	16
Hardness as CaCO <sub>3</sub> calcium and magnesium	240	328	344
Remarks	Seeps from sandstone at the heads of two draws	Seep from sandstone at head of draw	Spring from sand and gravel overlain by till
Field chemical analyses			

Table 5.--Field chemical analyses of water from streams, Sullivan County, Indiana

(Results in parts per million)

Name	Location	Date of Collection	Temperature (°F)	Iron (Fe)	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Hardness as CaCO <sub>3</sub> (Calcium, magnesium)	Remarks
T. 6 N., R. 9 W.									
Busseron Creek	NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 9	9-12-60	67	0.2	59	1,500	26	1,470	Sample taken at bridge on state road
Tanyard Branch	SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 17	9-12-60	69	.3	239	55	8	224	Sample taken at bridge on county road
Marsh Creek	NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 33	9-12-60	74	.2	195	115	10	180	Do
T. 6 N., R. 10 W									
Rogers Ditch	SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 14	9-12-60	66	.3	244	80	10	232	Do
Busseron Creek	NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 26	9-12-60	56	.3	83	1,020	16	1,050	Do
T. 7 N., R. 8 W.									
Buttermilk Creek	SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 7	9-12-60	65	>7.5	44	3,180?	66	3,760	Sample taken at bridge on county road; water coming from strip mine area
T. 7 N., R. 9 W.									
Busseron Creek	SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 22	9-12-60	70	3.0	59	1,980	22	1,680	Sample taken at bridge on federal road

T. 7 N., R. 10 W.

Turtle Creek	NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 20	9-12-60	64	0.2	337	25	10	288	Sample taken at bridge on state road
Little Turtle Creek	NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 21	9-12-60	68	.4	312	30	10	256	Sample taken at bridge on county road
Wabash River	NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 30	9-12-60	75	.5	293	80	20	296	Sample taken at rail-road bridge

T. 8 N., R. 8 W.

Kettle Creek	SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17	9-12-60	71	.3	88	110	12	168	Sample taken at bridge on county road
Big Branch	NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 21	9-12-60	71	5.0	142	1,800	12	1,830	Do
Busseron Creek	NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 30	9-12-60	68	5.0	112	1,930?	10	1,870	Do

T. 8 N., R. 10 W.

Turman Creek	NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 9	9-13-60	78	.3	268	100	880	468	Sample taken at bridge on state road
--------------	--	---------	----	----	-----	-----	-----	-----	--------------------------------------

T. 8 N., R. 11 W.

-----do-----	NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 23	9-13-60	65	.3	317	45	348	360	Sample taken at bridge on county road
-----do-----	SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 23	9-13-60	67	.5	332	140	316	360	Sample taken at bridge on state road

T. 9 N., R. 8 W.

Boston Creek	NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 14	9-13-60	70	1.5	215	1,500	12	1,780	Sample taken at bridge on county road
West Fork Busseron Creek	SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 29	9-12-60	64	.5	503	570	18	824	Sample taken at bridge on state road
Busseron Creek	NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 33	9-12-60	64	.5	293	55	24	256	Do

Table 5.-- Field Chemical analyses of water from streams, Sullivan County, Indiana--Continued

Name	Location	Date of Collection	Temperature (°F)	Iron (Fe)	Bicarbonate (HCO <sub>3</sub> )	Sulfate (SO <sub>4</sub> )	Chloride (Cl)	Hardness as CaCO <sub>3</sub> (Calcium, magnesium)	Remarks
T. 9 N., R. 9 W.									
Turman Creek	NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 16	9-13-60	62	0.3	303	155	14	208	Sample taken at bridge on county road
-----	NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 19	9-13-60	61	.3	420	-----	11,100	3,440	Do
Turman Creek	SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 19	9-13-60	60	.3	181	-----	10,400	2,910	Do
-----do-----	NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 21	9-13-60	71	.3	381	205	24	296	Do
T. 9 N., R. 10 W.									
Prairie Creek	SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 6	9-13-60	62	.3	181	220	5,530	2,000	Do
T. 9 N., R. 11 W.									
Wabash River	NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 25	9-13-60	75	.3	264	85	20	288	

Table 6.--Water levels in observation wells in Sullivan County, Indiana  
(In feet below land-surface datum, except as noted. Water level: e, estimated; h, tape measurement)

Sullivan 1. (6/8W-19Q1). Norman Koenig. SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 19 T. 6 N., R. 8 W. Dug unused well in glacial clay till, diameter 36 inches, depth 23 feet. Land-surface datum is about 531 feet above msl. Highest water level is 0.46 below lsd, Jan. 1, 1951, lowest is 15.58 below lsd, Dec. 26, 1954. Records available: 1944-55.

Date	Water Level	Date	Water Level	Date	Water Level	Date	Water Level
1944		May 20	4.37	Mar. 31	5.77	1947	
		27	5.70	Apr. 7	6.01	Jan. 5	4.48
Aug. 24	12.25	June 4	6.32	14	6.54	12	4.39
26	12.10	11	4.25	21	6.42	19	2.85
Sept. 2	10.80	17	1.04	28	7.52	Feb. 9	4.86
9	11.10	24	1.78	May 7	4.59	16	6.04
16	11.70	July 8	7.34	12	3.32	23	6.14
24	12.08	15	8.38	19	1.11	Mar. 2	6.77
30	12.15	22	8.34	26	2.71	9	7.21
Oct. 7	12.43	29	7.55	June 2	5.41	16	5.71
15	12.60	Aug. 5	8.73	9	5.37	23	3.55
21	12.75	12	9.07	16	6.32	30	3.28
29	13.67	16	10.05	23	6.77	Apr. 6	1.49
Nov. 5	15.38	23	10.77	30	7.54	13	1.05
13	13.10	30	6.62	July 7	7.84	20	1.78
19	13.47	Oct. 7	5.64	14	8.73	27	1.39
26	13.27	14	6.38	21	8.49	May 4	1.46
Dec. 3	13.56	21	7.57	28	8.01	11	1.28
10	13.32	28	8.14	Aug. 4	9.26	18	1.11
16	13.50	Nov. 4	7.54	11	9.45	July 13	8.45
28	13.77	11	6.54	18	9.35	20	8.08
31	13.72	18	5.41	25	9.55	Aug. 17	9.20
1945		25	3.54	Sept. 1	10.81	24	9.10
		Dec. 2	4.36	8	10.35	31	9.33
Jan. 7	13.87	9	4.24	15	10.44	Sept. 7	9.30
14	13.79	16	5.57	22	10.41	14	9.20
21	13.07	23	7.57	29	10.77	21	9.10
28	12.80	30	2.25	Oct. 6	12.76	Oct. 12	10.57
Feb. 11	13.58			13	12.04	19	10.73
18	13.14	1946		20	10.44	Nov. 9	11.16
25	9.80	Jan. 6	2.43	27	11.11	16	11.32
Mar. 4	4.40	13	2.53	Nov. 3	12.79	Dec. 5	11.79
11	4.67	20	3.32	10	10.69	12	12.81
18	4.80	27	5.06	17	10.65	19	12.01
25	3.80	Feb. 3	5.87	24	9.54	26	12.08
Apr. 1	2.77	10	3.03	Dec. 1	8.74	1948	
8	1.80	17	4.59	8	8.52	Jan. 3	11.79
15	0.70	24	4.13	15	6.65	9	7.86
22	4.07	Mar. 3	5.41	22	4.85	16	7.64
29	4.37	10	4.30	29	4.58	23	7.79
May 6	4.77	17	2.67			30	9.10
13	5.84	24	3.57			Feb. 6	9.76
						13	9.69

Table 6.--Water levels in observation wells--Continued

## Sullivan 1--Continued

Date	Water Level	Date	Water Level	Date	Water Level	Date	Water Level
Feb. 20	9.54	1950		June 11	7.29	Oct. 11	11.45
27	7.06			July 5	8.49	17	11.64
Mar. 5	6.79	Jan. 2	2.90	16	8.92	25	11.88
14	4.45	9	1.50	22	8.88	Nov. 1	12.03
19	4.08	16	1.20	Aug. 12	9.19	8	12.18
Apr. 1	2.37	Mar. 2	3.66	20	6.85	15	12.36
8	2.36	7	3.68	26	9.59	23	12.53
15	2.37	13	2.25	Oct. 1	10.05	Dec. 6	12.48
May 14	4.98	20	2.66	15	10.29	14	12.10
July 22	8.82	28	1.27	22	10.88	21	12.12
Aug. 8	7.70	Apr. 3	2.19	29	9.48	27	12.13
15	8.49	10	3.09	Nov. 12	5.76		
23	10.03	17	4.15	Dec. 3	0.88	1953	
29	9.47	24	4.58	17	2.44		
Sept. 6	9.75	May 1	1.76	21	1.43	Jan. 4	12.07
12	9.77	8	3.14	30	1.54	10	10.20
19	10.66	15	2.76			18	8.15
26	10.53	22	4.76	1952		24	7.25
Nov. 4	11.08	29	5.75			31	6.37
22	4.92	Aug. 23	9.79	Jan. 7	1.86	Feb. 7	6.50
28	2.95	Sept. 22	8.57	28	2.34	14	6.58
Dec. 5	5.36	29	8.40	Apr. 2	2.44	21	6.85
12	1.94	Oct. 9	9.00	6	1.40	28	6.41
19	4.67	16	9.00	13	1.38	Mar. 7	2.97
		19	9.47	20	3.04	15	2.56
1949		27	8.46	26	4.12	20	2.09
		Nov. 4	10.79	May 3	5.33	Apr. 4	3.63
Jan. 2	0.96	25	9.46	10	6.02	11	4.25
16	3.64	Dec. 3	10.15	17	6.85	19	3.95
23	3.54	11	10.42	24	7.30	25	4.13
May 12	6.85			31	7.63	May 3	4.42
19	7.08	1951		June 7	7.93	10	5.15
26	7.45			21	8.45	18	2.29
June 2	7.94	Jan. 7	0.46	28	8.38	23	3.97
9	7.49	26	2.85	July 5	8.69	31	6.20
16	7.22	12	4.70	13	8.83	June 6	7.00
23	7.41	Mar. 5	1.75	20	9.03	13	7.89
20	7.28	19	1.76	26	9.26	20	7.39
July 7	7.32	26	1.86	Aug. 2	9.46	27	9.00
22	7.17	Apr. 2	1.88	9	9.65	July 11	9.56
Sept. 14	10.31	9	1.69	16	9.88	19	9.67
24	10.48	23	2.77	24	10.17	Aug. 1	10.10
Oct. 21	9.10	30	3.92	30	10.35	8	10.29
Nov. 16	7.94	May 7	3.48	Sept. 6	10.45	16	10.55
28	7.54	13	5.20	13	10.67	22	10.80
Dec. 5	6.94	20	5.73	20	10.78	29	11.04
12	1.94	28	6.46	27	10.99	Sept. 5	11.30
		June 4	6.78	Oct. 4	11.22	13	11.61



Table 6.--Water levels in observation wells--Continued

Sullivan 1--Continued

Date	Water Level	Date	Water Level	Date	Water Level	Date	Water Level
Sept. 20	11.85	Apr. 11	11.53	Oct. 31	14.72	May 1	4.30
26	12.12	18	11.31	Nov. 7	14.75	8	6.24
Oct. 3	12.38	25	11.60	13	14.96	14	7.13
10	12.57	May 2	11.65	21	15.05	21	7.68
18	12.88	9	11.67	28	15.18	30	7.90
26	13.06	17	11.92	Dec. 4	15.35	June 4	7.97
Nov. 1	13.19	21	12.07	11	15.48	12	7.82
7	13.33	31	12.28	19	15.48	19	7.25
14	13.47	June 5	12.15	26	15.58	26	7.77
21	13.57	12	12.35			July 5	8.40
28	13.73	19	12.70	1955		10	8.67
Dec. 5	13.87	26	12.99				
13	13.95	July 5	13.42	Jan. 2	11.96		
19	14.15	11	13.66	9	8.77		
1954 26	14.25	19	13.92	16	8.20		
Jan. 2	14.38	25	14.12	23	8.22		
9	14.51	31	14.22	30	8.75		
16	14.67	Aug. 9	14.25	Feb. 7	8.86		
23	14.73	15	14.33	12	8.63		
30	14.55	22	14.43	20	8.22		
Feb. 6	14.40	28	14.53	27	7.28		
13	14.58	Sept. 6	14.71	Mar. 6	4.13		
20	13.70	12	14.80	13	5.28		
27	12.90	19	14.88	29	4.22		
Mar. 6	12.18	26	14.92	27	3.45		
14	11.92	Oct. 2	15.03	Apr. 3	4.50		
20	12.27	9	15.16	10	6.15		
27	12.50	17	15.02	17	3.17		
Apr. 4	12.49	23	15.18	24	3.15		

Sullivan 2. (6/9W-24N1). Arthur Ready. SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 24, T. 6 N., R. 8 W. Drilled unused artesian well in sandstone, diameter 7 inches, depth 174 feet. Land-surface datum is 518.3 feet above msl. Recording gage installed July 20, 1955. Highest water level is 5.81 below lsd, Dec. 22, 1957; lowest is 18.63 below lsd, Sept. 25, 1956. Records available 1955-59. Affected by pumping of nearby domestic well.

(Daily highest water level from recorder graph, 1955)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	-----	-----	-----	-----	-----	-----	-----	14.60	16.53	17.42	17.19	15.73
2	-----	-----	-----	-----	-----	-----	-----	14.65	16.59	17.43	17.13	15.58
3	-----	-----	-----	-----	-----	-----	-----	14.69	16.61	17.44	17.06	15.42
4	-----	-----	-----	-----	-----	-----	-----	14.73	16.64	17.49	16.90	15.42
5	-----	-----	-----	-----	-----	-----	-----	14.79	16.69	17.39	16.77	15.48
6	-----	-----	-----	-----	-----	-----	-----	14.83	16.78	17.27	16.76	15.43

Table 6.--Water levels in observation wells--Continued

Sullivan 2--Continued

(Daily highest water levels from recorder graph, 1955)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
7	-----	-----	-----	-----	-----	-----	-----	14.86	16.82	17.15	16.83	15.28
8	-----	-----	-----	-----	-----	-----	-----	14.93	16.92	17.05	16.91	-----
9	-----	-----	-----	-----	-----	-----	-----	14.99	16.95	16.98	16.83	15.06
10	-----	-----	-----	-----	-----	-----	-----	15.05	17.02	16.97	16.74	14.94
11	-----	-----	-----	-----	-----	-----	-----	15.13	17.09	16.93	16.75	14.89
12	-----	-----	-----	-----	-----	-----	-----	15.24	17.16	16.87	16.85	14.81
13	-----	-----	-----	-----	-----	-----	-----	15.26	17.21	16.78	16.95	14.71
14	-----	-----	-----	-----	-----	-----	-----	15.30	17.22	16.76	16.98	14.69
15	-----	-----	-----	-----	-----	-----	-----	15.38	17.27	16.79	16.72	14.69
16	-----	-----	-----	-----	-----	-----	-----	15.43	17.35	16.86	16.58	14.57
17	-----	-----	-----	-----	-----	-----	-----	15.45	17.41	16.83	16.40	14.55
18	-----	-----	-----	-----	-----	-----	-----	15.51	17.49	16.88	16.16	14.55
19	-----	-----	-----	-----	-----	-----	-----	15.62	17.50	17.00	16.11	14.67
20	-----	-----	-----	-----	-----	-----	14.03	15.68	17.52	17.07	16.00	14.67
21	-----	-----	-----	-----	-----	-----	14.11	15.73	17.36	17.08	15.93	14.60
22	-----	-----	-----	-----	-----	-----	14.14	15.78	17.19	17.14	15.83	14.46
23	-----	-----	-----	-----	-----	-----	14.18	15.90	17.22	17.12	15.81	14.46
24	-----	-----	-----	-----	-----	-----	14.17	16.00	17.30	17.12	15.90	14.50
25	-----	-----	-----	-----	-----	-----	14.19	16.06	17.40	17.19	15.77	14.59
26	-----	-----	-----	-----	-----	-----	14.30	16.12	17.41	17.19	15.67	14.78
27	-----	-----	-----	-----	-----	-----	14.33	16.15	17.44	17.24	15.60	14.80
28	-----	-----	-----	-----	-----	-----	14.38	16.19	17.50	17.13	15.69	14.77
29	-----	-----	-----	-----	-----	-----	14.43	16.23	17.42	17.11	15.72	14.77
30	-----	-----	-----	-----	-----	-----	14.52	16.30	17.40	17.09	15.82	14.83
31	-----	-----	-----	-----	-----	-----	14.57	16.49	-----	17.14	-----	14.74

(Daily highest water level from recorder graph, 1956)

1	14.71	14.44	10.52	-----	11.15	-----	12.12	13.32	15.04	16.33	17.08	17.13
2	14.68	13.95	10.52	10.70	11.13	10.85	12.26	13.40	14.96	16.39	17.13	17.13
3	14.78	13.48	10.54	10.72	11.19	10.87	12.32	13.47	14.96	16.49	17.25	17.17
4	14.85	13.07	10.73	10.79	11.21	10.93	12.32	13.59	14.97	16.32	17.32	17.47
5	14.83	12.87	10.68	10.76	11.34	11.00	12.37	13.54	15.02	16.42	17.21	17.39
6	14.83	12.79	10.69	10.75	11.29	11.08	12.47	13.69	15.09	16.30	17.31	17.36
7	14.95	12.72	10.70	10.75	11.13	11.13	12.54	13.81	15.23	16.41	17.32	17.70
8	15.06	12.55	10.70	10.74	11.01	11.23	12.56	13.89	15.31	16.31	17.36	16.23
9	15.03	12.45	10.64	10.82	10.89	11.35	12.61	13.96	15.35	16.52	17.44	15.77
10	15.02	12.23	10.58	10.71	10.93	11.50	12.78	13.99	15.39	16.49	17.39	15.09
11	15.06	12.19	10.65	10.66	10.95	-----	12.89	14.03	15.39	16.37	17.42	14.70
12	15.08	12.24	10.76	10.68	11.00	-----	12.96	14.09	15.13	16.39	17.40	14.52
13	-----	12.27	10.65	10.70	11.03	-----	12.63	14.15	15.13	16.46	17.55	14.47
14	-----	12.25	10.65	10.53	11.09	-----	12.47	14.24	15.22	16.65	17.50	14.39
15	-----	12.24	10.40	10.50	11.19	-----	12.35	14.35	15.26	16.54	17.49	14.37
16	-----	12.01	10.35	10.52	11.23	-----	12.30	14.44	15.19	16.63	17.56	14.40
17	-----	11.86	10.25	10.70	11.20	12.02	12.33	14.50	15.20	16.58	17.50	14.31
18	-----	11.83	10.25	10.70	11.31	12.10	12.46	14.56	15.30	16.97	17.42	14.48

Table 6.--Water levels in observation wells--Continued

Sullivan 2--Continued

(Daily highest water level from recorder graph, 1956)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
19	-----	-----	10.30	10.89	11.38	12.18	12.41	14.46	15.27	16.89	17.48	14.46
20	-----	-----	10.36	10.93	11.51	12.23	12.37	14.40	15.40	-----	17.48	14.27
21	-----	-----	10.35	10.86	11.52	12.21	12.46	14.41	15.56	16.77	17.31	14.17
22	15.40	-----	10.35	10.89	-----	11.81	12.52	14.45	15.57	16.68	17.20	14.17
23	15.39	-----	10.33	11.04	-----	11.78	12.61	14.46	15.63	17.05	17.10	14.02
24	15.40	-----	10.38	11.17	-----	11.78	12.66	14.59	15.71	16.97	17.05	13.95
25	15.43	-----	10.32	11.13	-----	11.79	12.73	14.77	17.52	17.11	16.92	13.97
26	15.53	10.76	10.31	11.00	-----	11.85	12.80	14.81	16.79	17.02	16.95	13.86
27	15.58	10.61	10.45	10.95	-----	11.89	12.93	14.82	16.46	16.95	17.10	13.92
28	15.40	10.70	10.46	11.03	-----	11.90	13.10	14.92	16.27	16.94	17.00	13.79
29	15.05	10.66	10.56	11.02	-----	12.02	13.18	15.04	16.33	16.90	17.03	13.86
30	14.99	-----	10.59	11.13	-----	12.04	13.19	15.10	16.23	16.96	17.11	13.92
31	14.84	-----	10.69	-----	-----	-----	13.23	15.13	-----	16.95	-----	13.93

(Daily highest water level from recorder graph, 1957)

1	13.93	11.90	10.40	9.67	8.84	8.70	9.07	11.08	13.20	13.83	14.34	10.20
2	13.99	11.96	10.40	9.46	8.95	8.76	9.24	10.91	13.04	13.89	14.36	10.21
3	14.05	11.86	10.44	-----	8.92	8.78	-----	10.96	12.91	13.89	14.46	10.19
4	13.91	11.80	10.37	-----	8.97	9.00	-----	10.86	13.10	13.95	14.44	10.17
5	13.99	11.81	10.44	-----	9.11	9.06	-----	10.80	13.27	14.28	14.44	10.18
6	13.92	11.79	10.38	-----	9.24	9.38	-----	10.94	13.47	-----	-----	9.98
7	13.80	11.73	10.40	-----	9.34	9.25	-----	10.93	13.58	14.17	-----	9.47
8	13.91	-----	10.38	8.33	9.30	9.22	9.75	11.01	13.42	14.30	14.52	9.10
9	13.98	-----	10.44	8.46	9.54	9.22	10.02	11.51	13.38	-----	-----	8.94
10	14.02	11.12	10.51	8.46	9.43	-----	10.06	11.36	13.72	-----	-----	-----
11	14.26	11.01	10.56	8.40	9.52	-----	10.33	11.58	13.63	-----	14.52	-----
12	13.95	10.86	10.55	8.60	9.60	-----	10.40	11.62	13.76	-----	14.44	8.87
13	13.83	10.77	10.48	8.68	9.53	-----	10.43	11.81	13.64	-----	14.18	8.80
14	13.81	10.63	10.58	8.74	9.62	-----	10.28	11.78	13.77	14.63	13.18	8.92
15	13.81	10.65	10.56	8.88	9.58	-----	10.28	11.80	13.73	14.81	-----	9.03
16	13.81	10.73	10.50	8.88	9.83	-----	9.96	12.42	13.69	14.51	-----	-----
17	13.85	10.79	10.58	8.84	9.76	-----	9.84	12.07	13.68	14.38	11.87	8.99
18	13.81	10.70	10.35	8.66	9.71	-----	9.93	12.04	13.68	14.32	10.92	-----
19	13.81	10.92	10.24	8.34	9.66	-----	9.95	11.94	13.68	14.42	10.47	-----
20	13.85	10.91	10.72	-----	9.51	-----	10.25	12.09	13.59	14.36	10.28	-----
21	13.70	10.94	-----	8.28	9.45	-----	10.17	12.39	13.70	14.33	10.13	-----
22	13.43	10.87	-----	8.15	9.25	-----	10.52	12.57	13.80	14.28	10.17	5.81
23	-----	10.87	-----	8.02	-----	-----	10.42	12.60	13.69	14.33	10.04	5.90
24	-----	10.89	-----	8.05	-----	-----	10.29	12.51	13.73	14.19	10.09	6.89
25	-----	10.74	10.22	8.12	-----	-----	10.39	12.43	13.60	14.11	9.98	6.27
26	-----	10.60	10.10	8.26	-----	9.36	10.37	12.35	14.10	14.07	10.07	6.14
27	-----	10.63	10.06	8.44	-----	9.39	10.44	12.55	13.89	14.30	9.98	6.22
28	12.02	10.50	9.94	8.57	8.32	9.20	10.80	12.52	13.79	14.27	10.01	6.38
29	12.02	-----	9.87	8.62	8.42	9.08	10.68	12.72	13.88	14.27	10.01	6.62
30	12.16	-----	9.83	8.67	8.55	-----	10.60	-----	13.81	14.16	10.05	6.65
31	12.02	-----	9.82	-----	8.52	-----	10.74	-----	-----	14.28	-----	6.76

Table 6.--Water levels in observation wells--Continued

Sullivan 2--Continued

(Daily highest water level from recorder graph, 1958)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1	6.82	6.94	8.38	7.39	8.54	9.46	-----	7.51	-----	10.74	11.64	-----
2	7.00	7.07	8.34	7.40	8.46	9.54	-----	7.29	9.87	10.62	11.61	-----
3	7.12	7.08	8.29	7.45	8.36	9.67	9.25	7.29	9.68	10.50	11.52	-----
4	7.32	7.14	8.40	7.52	-----	9.75	9.42	7.35	9.55	10.56	11.76	-----
5	7.52	7.22	8.48	7.66	-----	10.11	9.61	-----	9.72	10.64	11.91	-----
6	7.52	7.24	8.38	7.49	-----	-----	9.33	-----	9.86	10.60	11.83	-----
7	7.73	7.24	8.36	7.64	-----	-----	8.93	-----	9.72	-----	11.83	-----
8	7.78	7.23	8.21	7.58	-----	10.03	8.76	-----	9.74	-----	11.86	8.95
9	7.85	8.39	8.13	7.57	-----	9.91	-----	-----	9.77	10.96	11.90	-----
10	7.91	7.43	8.08	7.61	-----	9.76	-----	-----	9.88	10.90	11.87	-----
11	8.09	7.69	8.02	7.72	8.17	-----	-----	8.52	9.85	10.85	11.96	-----
12	8.16	8.07	8.06	7.92	8.13	-----	-----	8.68	-----	10.85	12.09	-----
13	8.10	7.99	7.90	8.10	8.26	-----	7.59	8.74	-----	10.86	11.93	-----
14	8.16	8.07	7.98	8.01	8.48	-----	7.65	8.70	-----	11.02	11.92	-----
15	8.18	8.03	7.76	8.23	8.58	8.08	7.60	8.53	10.26	-----	11.86	-----
16	8.23	8.51	-----	8.14	8.83	8.05	7.16	8.36	10.11	-----	11.64	-----
17	8.31	8.36	-----	8.15	8.60	8.21	7.13	8.52	-----	-----	11.12	-----
18	8.27	8.43	7.68	8.32	8.61	8.21	7.13	8.53	-----	-----	-----	-----
19	8.35	8.49	7.69	8.32	8.58	8.26	7.22	8.76	-----	-----	-----	-----
20	8.19	8.70	7.67	8.42	-----	8.04	6.96	8.93	-----	11.17	10.25	8.89
21	7.15	8.60	7.67	8.41	-----	7.90	6.63	8.75	-----	11.24	10.19	8.92
22	6.79	8.62	7.78	8.41	-----	8.14	6.69	8.66	10.14	11.31	-----	-----
23	6.70	8.59	7.94	8.45	-----	7.98	6.69	8.74	10.28	11.26	10.14	-----
24	6.62	8.54	7.10	8.41	-----	8.29	-----	8.66	10.20	11.24	-----	-----
25	6.63	8.63	6.76	8.64	-----	8.47	-----	8.86	10.38	11.47	-----	-----
26	6.69	8.54	7.61	8.69	8.92	9.24	-----	-----	-----	11.32	-----	-----
27	6.63	8.37	7.64	8.54	9.25	8.24	7.86	-----	-----	11.34	10.23	-----
28	6.70	8.45	7.76	8.49	9.27	8.45	7.87	-----	10.91	11.46	-----	9.05
29	-----	-----	7.97	8.46	9.43	8.51	7.90	-----	10.74	11.59	-----	8.97
30	-----	-----	7.02	8.54	9.68	-----	-----	9.42	10.59	11.71	10.19	9.00
31	6.97	-----	7.05	-----	9.50	-----	7.63	-----	-----	11.74	-----	8.88

(Daily highest water level from recorder graph, 1959)

1	8.87	-----	6.69	7.38	8.36	7.28	-----	12.03	11.70	-----	11.26	9.42
2	-----	7.19	6.61	7.07	8.42	7.47	-----	12.02	11.62	-----	11.24	9.40
3	-----	7.08	6.66	6.88	8.62	7.49	-----	12.06	11.64	-----	11.31	9.40
4	-----	7.00	-----	7.16	8.69	7.63	-----	11.96	11.81	-----	10.90	9.36
5	8.84	7.13	-----	7.14	-----	7.80	-----	-----	11.80	12.22	-----	9.34
6	8.90	-----	-----	7.13	8.75	7.99	10.32	11.59	11.93	12.19	-----	9.32
7	8.76	7.40	-----	7.17	-----	8.28	-----	11.58	11.92	-----	-----	9.28
8	8.91	7.44	-----	-----	-----	-----	10.85	11.58	12.01	-----	-----	9.31
9	8.86	7.38	6.81	-----	-----	-----	-----	11.52	12.19	-----	10.65	9.33
10	8.80	-----	-----	-----	-----	-----	-----	11.49	12.30	-----	10.52	9.30
11	8.80	-----	-----	-----	8.80	-----	-----	11.81	-----	-----	10.60	-----
12	8.80	-----	6.42	-----	8.64	-----	-----	11.94	-----	11.89	10.58	-----

Table 6.--Water levels in observation wells--Continued

## Sullivan 2--Continued

(Daily highest water level from recorder graph, 1959)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
13	8.89	-----	6.38	7.84	-----	-----	-----	11.87	-----	11.96	10.45	7.91
14	-----	-----	6.38	7.91	-----	-----	-----	12.12	12.31	-----	10.24	7.82
15	-----	-----	6.41	7.85	-----	8.53	-----	12.07	12.31	-----	9.67	7.69
16	-----	6.13	6.59	7.84	-----	-----	-----	-----	12.32	-----	-----	7.68
17	-----	-----	-----	7.91	-----	8.75	-----	-----	12.31	11.77	-----	7.63
18	-----	-----	-----	8.00	8.10	8.84	-----	-----	12.31	11.66	-----	7.18
19	7.82	-----	-----	8.12	7.97	8.83	-----	-----	12.37	-----	-----	7.08
20	7.83	-----	-----	8.07	8.07	9.02	11.62	-----	12.34	-----	-----	7.00
21	-----	-----	-----	8.07	8.07	9.14	11.80	-----	12.47	-----	-----	6.98
22	-----	7.40	-----	-----	8.09	9.15	11.75	-----	12.64	-----	9.38	-----
23	-----	7.14	7.23	-----	-----	9.41	11.65	-----	12.60	-----	9.36	-----
24	-----	6.78	7.37	8.08	-----	9.38	11.62	11.09	12.68	-----	9.36	-----
25	-----	6.62	-----	8.08	8.12	9.38	11.70	11.39	12.70	-----	9.36	-----
26	-----	6.62	7.45	-----	8.12	9.43	11.71	11.31	12.68	11.25	9.36	-----
27	-----	6.59	7.32	8.26	-----	-----	11.78	11.34	12.43	11.41	9.37	7.09
28	-----	6.72	7.37	8.24	-----	-----	11.81	11.47	12.35	11.42	9.37	7.06
29	-----	-----	7.35	8.27	-----	-----	11.84	11.44	12.35	11.33	9.48	7.06
30	-----	-----	7.32	-----	-----	-----	11.83	11.49	-----	11.41	9.38	7.07
31	-----	-----	7.32	-----	-----	-----	11.85	11.65	-----	11.25	-----	7.07

Sullivan 3. (6/10W-12M2). City of Carlisle. NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 12, T. 6 N., R. 10 W. Drilled unused water-table well in glaciofluvial sand and gravel, diameter 6 inches, depth 58.0 feet. Land-surface datum is 426.3 feet above msl. Recording gage installed May 31, 1956. Highest water level is 4.07 below lsd, May 23, 1957; lowest is 11.63 below lsd, Dec. 6, 1956. Records available 1956-59. Affected by pumping of nearby wells.

(Daily highest water level from recorder graph, 1956)

1	-----	-----	-----	-----	-----	8.46	9.68	10.43	11.02	11.22	11.36	-----
2	-----	-----	-----	-----	-----	8.68	9.76	10.45	11.02	11.23	11.38	11.47
3	-----	-----	-----	-----	-----	8.82	9.82	10.49	11.03	11.24	11.38	11.48
4	-----	-----	-----	-----	-----	8.85	9.89	10.50	11.03	11.24	11.38	11.48
5	-----	-----	-----	-----	-----	8.89	9.93	10.53	11.04	11.25	11.38	11.48
6	-----	-----	-----	-----	-----	8.93	9.95	10.56	11.05	11.25	11.36	11.45
7	-----	-----	-----	-----	-----	-----	9.98	10.58	11.06	11.25	11.38	11.30
8	-----	-----	-----	-----	-----	-----	10.00	10.60	11.07	11.25	11.38	11.15
9	-----	-----	-----	-----	-----	-----	10.04	10.64	11.08	11.26	11.38	11.07
10	-----	-----	-----	-----	-----	-----	10.10	10.66	11.09	11.26	11.39	10.98
11	-----	-----	-----	-----	-----	-----	10.13	10.68	11.09	11.26	11.39	10.92
12	-----	-----	-----	-----	-----	-----	-----	10.71	11.09	11.27	11.39	10.89
13	-----	-----	-----	-----	-----	-----	-----	10.73	11.10	-----	11.39	10.87
14	-----	-----	-----	-----	-----	-----	-----	10.75	11.12	-----	11.39	10.87
15	-----	-----	-----	-----	-----	-----	-----	10.76	11.11	-----	11.40	10.87
16	-----	-----	-----	-----	-----	-----	-----	10.78	11.11	-----	11.40	10.89

Table 6.--Water levels in observation wells--Continued

Sullivan 3--Continued

(Daily highest water level from recorder graph, 1956)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
17	-----	-----	-----	-----	-----	-----	-----	10.80	11.12	11.29	11.41	10.91
18	-----	-----	-----	-----	-----	-----	-----	-----	11.13	11.29	11.42	10.94
19	-----	-----	-----	-----	-----	-----	-----	10.84	11.13	11.30	11.42	10.95
20	-----	-----	-----	-----	-----	-----	-----	10.88	11.20	11.31	11.42	10.96
21	-----	-----	-----	-----	-----	-----	-----	-----	11.19	-----	11.42	10.98
22	-----	-----	-----	-----	-----	-----	-----	-----	11.20	11.30	-----	10.99
23	-----	-----	-----	-----	-----	-----	-----	10.93	11.20	11.31	-----	10.98
24	-----	-----	-----	-----	-----	-----	-----	10.94	11.20	11.31	-----	10.99
25	-----	-----	-----	-----	-----	-----	-----	10.96	11.21	11.32	-----	11.00
26	-----	-----	-----	-----	-----	-----	-----	10.97	11.20	-----	-----	11.00
27	-----	-----	-----	-----	-----	-----	10.31	10.98	11.21	11.33	-----	11.01
28	-----	-----	-----	-----	-----	-----	e10.35	-----	11.21	11.32	-----	11.00
29	-----	-----	-----	-----	-----	9.55	e10.37	-----	11.21	-----	-----	11.02
30	-----	-----	-----	-----	-----	9.62	e10.40	-----	11.22	-----	-----	11.04
31	-----	-----	-----	-----	8.48	-----	e10.42	-----	-----	11.35	-----	11.05

(Daily highest water level from recorder graph, 1957)

1	11.08	10.22	9.93	8.55	8.45	7.54	8.13	9.22	10.48	10.83	10.82	-----
2	11.09	10.27	9.88	-----	8.46	7.51	8.20	9.32	10.48	10.85	10.87	-----
3	11.10	10.27	9.78	5.35	8.52	7.65	8.30	9.40	10.51	10.86	10.92	-----
4	11.11	10.33	9.71	4.97	8.55	7.81	8.42	9.49	10.52	10.87	10.96	-----
5	11.12	10.31	9.73	5.55	8.56	7.84	8.57	9.58	10.54	10.88	10.98	10.22
6	11.15	10.28	9.72	6.10	8.58	7.95	8.67	9.64	10.55	10.89	10.96	9.92
7	11.15	10.26	9.80	6.67	8.58	8.06	8.65	9.70	10.57	10.89	11.00	9.73
8	11.15	10.20	9.90	6.92	8.59	8.18	8.70	9.75	10.58	-----	10.97	9.69
9	11.16	10.13	9.98	7.00	8.62	8.27	8.80	9.80	10.60	-----	10.97	9.61
10	11.18	10.02	10.04	7.29	8.58	8.36	8.83	9.86	10.62	-----	10.98	9.57
11	11.18	9.95	10.05	7.50	8.59	8.40	8.85	9.91	10.62	10.91	11.00	9.57
12	11.13	9.85	10.09	7.79	8.76	8.30	8.86	9.97	10.63	10.93	10.96	9.53
13	11.14	9.76	10.08	7.98	8.77	7.29	8.84	10.01	10.64	10.94	10.91	9.49
14	11.16	9.69	10.08	8.10	8.76	7.27	8.82	10.03	10.63	10.95	10.79	9.49
15	11.16	9.66	10.10	8.10	8.77	7.28	7.47	10.07	10.65	10.95	10.60	9.47
16	11.19	9.74	10.06	8.23	8.76	7.65	7.43	10.11	10.67	10.93	10.55	9.33
17	11.17	9.87	10.04	8.28	8.75	7.83	7.79	10.13	10.69	10.93	10.39	8.69
18	11.18	9.92	10.00	8.01	7.94	7.54	8.10	10.15	10.70	10.95	9.75	-----
19	11.19	9.99	9.99	7.96	7.28	7.35	8.31	10.18	10.70	10.96	9.45	-----
20	11.20	10.08	10.00	8.09	6.83	7.25	8.43	10.22	10.71	10.97	9.43	-----
21	11.19	10.13	9.95	8.16	4.84	7.48	8.50	10.25	10.72	10.97	9.43	-----
22	10.87	10.17	9.94	8.09	4.40	7.77	8.57	10.28	10.73	10.97	9.45	-----
23	10.58	10.21	9.96	8.16	4.07	7.94	8.61	10.30	10.74	10.94	9.47	-----
24	10.35	10.22	9.96	8.21	4.54	8.06	8.68	10.31	10.76	10.95	9.60	-----
25	10.26	10.23	9.73	8.29	5.14	8.12	8.74	10.34	10.79	10.96	9.78	5.71
26	10.17	-----	9.56	8.35	5.53	8.41	8.78	10.37	10.80	10.97	9.86	5.59
27	10.06	10.05	9.51	8.37	6.17	8.54	8.90	10.38	10.80	10.96	9.93	6.35
28	9.95	9.98	9.46	8.39	6.65	7.88	8.97	10.40	10.81	10.86	9.98	6.88

Table 6.--Water levels in observation wells--Continued

Sullivan 3--Continued

(Daily highest water level from recorder graph, 1957)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
29	9.94	-----	9.46	8.44	7.04	7.84	8.98	10.42	10.82	10.73	10.05	7.22
30	10.09	-----	9.48	8.45	7.29	7.99	9.04	10.44	10.83	10.69	10.10	7.52
31	10.14	-----	9.49	-----	7.47	-----	-----	10.47	-----	10.73	-----	7.70

(Daily highest water level from recorder graph, 1958)

1	7.84	8.84	9.86	9.40	9.99	10.23	9.29	7.44	9.62	10.09	-----	-----
2	7.98	8.97	9.81	9.45	10.02	10.26	9.34	-----	9.65	10.04	-----	-----
3	8.05	9.09	9.73	9.48	9.98	10.27	9.37	-----	9.68	10.04	-----	-----
4	8.06	9.14	9.57	9.54	9.97	10.29	9.43	7.81	9.72	10.05	-----	-----
5	8.13	9.15	9.43	9.52	9.97	10.31	9.46	8.07	9.75	10.08	-----	-----
6	8.11	9.24	9.44	9.58	9.84	10.26	9.52	8.24	9.78	10.11	-----	-----
7	8.25	9.27	9.58	9.66	9.60	10.26	9.56	8.35	9.87	10.12	-----	-----
8	8.30	9.32	9.62	9.65	9.62	10.28	9.59	8.47	9.81	10.12	-----	-----
9	8.39	9.34	9.72	9.66	9.69	10.30	9.64	8.58	9.81	10.14	-----	-----
10	8.54	9.36	9.77	9.67	9.69	10.31	9.31	e8.67	9.84	-----	-----	-----
11	8.74	9.40	9.78	9.73	9.71	9.76	5.95	-----	9.89	-----	-----	-----
12	8.89	9.52	9.79	9.77	9.78	9.66	5.95	-----	9.91	10.16	-----	-----
13	8.97	9.56	9.76	9.80	9.86	8.99	5.33	-----	9.93	10.16	-----	-----
14	9.07	-----	-----	9.81	9.92	8.41	6.08	-----	9.94	10.18	-----	-----
15	9.19	-----	-----	9.85	9.95	8.49	-----	-----	9.98	10.18	-----	-----
16	9.21	-----	-----	9.88	9.99	8.70	-----	-----	9.98	10.20	-----	-----
17	9.25	-----	-----	9.91	9.99	8.91	-----	8.82	9.85	10.13	-----	-----
18	9.28	-----	9.84	9.89	10.01	8.95	6.70	8.89	9.80	10.14	-----	-----
19	9.30	-----	9.86	9.91	10.04	8.97	6.94	8.96	9.80	10.16	-----	-----
20	9.26	9.89	9.86	9.92	10.06	8.87	6.69	8.93	9.79	10.19	-----	-----
21	7.97	-----	9.87	9.91	10.08	8.95	6.85	8.48	9.81	10.19	-----	-----
22	7.90	9.92	9.91	9.90	10.08	9.08	7.05	9.08	9.87	10.32	-----	-----
23	7.84	9.91	9.92	9.91	10.09	9.15	7.37	9.10	9.88	10.34	-----	-----
24	7.83	9.86	-----	9.94	10.09	9.22	7.67	9.12	9.90	-----	-----	-----
25	7.87	9.92	-----	10.01	10.10	-----	7.84	9.15	9.94	10.38	-----	-----
26	8.00	9.85	9.86	9.98	10.12	8.99	8.06	9.20	9.96	10.39	-----	-----
27	8.07	9.80	9.93	9.99	10.14	9.03	8.19	9.24	9.97	10.40	-----	-----
28	8.26	-----	-----	9.98	10.16	9.10	8.31	9.31	9.96	-----	-----	-----
29	8.46	-----	-----	10.01	10.16	9.20	8.41	9.39	9.98	-----	-----	-----
30	8.64	-----	9.17	9.98	10.19	9.26	8.28	9.45	9.99	-----	-----	-----
31	8.65	-----	9.31	-----	10.23	-----	7.94	9.60	-----	-----	-----	-----

(Daily highest water level from recorder graph, 1959)

1	-----	8.85	9.05	8.66	9.57	9.50	10.18	10.67	10.89	11.12	11.08	10.32
2	-----	8.88	9.04	8.41	9.58	9.56	10.22	10.68	10.90	11.12	11.08	10.36
3	-----	8.69	9.14	8.44	9.62	9.62	10.22	10.69	10.92	11.12	10.94	10.36
4	-----	8.87	9.21	8.74	9.65	9.66	10.23	10.57	10.92	11.11	10.51	10.37
5	-----	9.03	9.08	8.81	9.66	9.71	10.25	10.48	10.92	11.09	10.42	10.40

Table 6.--Water levels in observation wells--Continued

## Sullivan 3--Continued

(Daily highest water level from recorder graph, 1959)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
6	-----	9.08	9.15	8.90	9.66	9.75	10.28	10.47	10.94	11.06	10.38	10.40
7	-----	e9.08	9.29	8.99	9.73	9.79	10.30	10.56	10.96	11.09	10.36	10.42
8	-----	8.98	9.21	9.10	9.77	9.83	10.32	10.57	10.97	11.11	10.37	10.43
9	-----	8.40	9.09	9.15	9.78	9.86	10.35	10.59	10.98	11.11	10.39	10.46
10	10.31	e7.59	8.94	9.19	9.66	9.87	10.40	10.62	10.97	11.06	10.37	10.47
11	-----	7.71	8.79	9.26	9.63	9.75	10.42	10.65	10.98	10.99	10.40	10.33
12	-----	8.17	8.71	9.25	9.44	9.72	10.42	10.68	11.00	10.99	10.43	9.59
13	-----	8.43	8.67	9.27	9.33	9.74	10.44	10.71	11.00	10.97	10.02	9.43
14	-----	-----	-----	9.32	9.39	9.83	10.46	10.72	11.00	10.96	9.24	9.42
15	-----	7.74	-----	9.34	9.44	9.84	10.49	10.75	-----	10.96	9.15	9.48
16	-----	8.14	8.84	9.36	9.49	9.86	10.50	10.75	11.06	10.96	9.22	9.60
17	-----	8.37	8.97	9.36	9.51	9.93	10.50	10.72	11.05	10.96	9.49	9.23
18	-----	8.64	9.05	9.40	9.50	9.96	10.49	10.72	11.05	10.97	9.59	8.85
19	10.22	8.75	8.99	9.31	9.52	9.99	10.52	10.74	11.04	10.98	9.63	8.88
20	10.13	8.87	9.01	9.22	9.43	10.01	10.54	10.75	11.06	11.01	9.70	9.12
21	7.60	8.97	9.08	9.22	9.40	10.03	10.55	10.76	11.06	11.01	9.81	9.32
22	7.50	9.04	9.14	9.23	9.41	10.04	10.56	10.77	11.06	11.03	9.92	e9.48
23	7.81	8.73	9.11	9.33	9.46	10.08	10.56	10.79	11.07	11.03	9.97	-----
24	8.35	8.71	9.14	9.37	-----	10.09	10.58	10.80	11.08	11.03	9.99	9.53
25	8.53	8.74	9.17	9.37	-----	-----	10.59	10.81	11.09	11.04	10.10	9.55
26	8.72	8.80	9.12	9.42	9.54	10.11	10.60	10.82	11.08	11.05	10.14	9.57
27	8.81	8.89	9.19	9.40	e9.34	10.14	10.61	10.86	11.08	11.06	10.21	-----
28	8.77	8.99	9.27	9.37	-----	10.15	10.62	10.87	11.09	11.07	10.24	-----
29	8.77	-----	9.26	9.47	-----	10.18	10.63	10.87	11.11	11.07e	10.25	-----
30	8.86	-----	9.08	9.51	-----	10.20	10.64	10.88	11.11	11.08	10.29	-----
31	8.72	-----	9.13	-----	-----	-----	10.66	10.89	-----	11.08	-----	-----

Sullivan 4. (8/10W-34Q1). Lawrence Huff. SW $\frac{1}{2}$ SE $\frac{1}{2}$  sec. 34, T. 8 N., R. 10 W. Drilled unused artesian well in sandstone, diameter 8 inches, depth 167 feet. Land-surface datum is 500.1 feet above msl. Recording gage installed July 10, 1957. Highest water level is 27.19 below lsd, Mar. 6, 1959; lowest is 31.14 below lsd, Aug. 21, 1957. Records available 1957-1959. Shows barometric fluctuations.

(Daily highest water level from recorder graph, 1957)

1	-----	-----	-----	-----	-----	-----	-----	30.80	30.96	30.91	30.50	29.97
2	-----	-----	-----	-----	-----	-----	-----	30.81	30.95	30.89	30.48	29.98
3	-----	-----	-----	-----	-----	-----	-----	30.81e	30.90	30.89	30.48	-----
4	-----	-----	-----	-----	-----	-----	-----	30.81	-----	30.89	30.51	-----
5	-----	-----	-----	-----	-----	-----	-----	30.84	-----	30.90	30.50	-----
6	-----	-----	-----	-----	-----	-----	-----	30.90	-----	30.87	30.51	-----
7	-----	-----	-----	-----	-----	-----	-----	-----	31.01	30.85	30.35	-----
8	-----	-----	-----	-----	-----	-----	-----	-----	31.01	30.86	30.26	-----
9	-----	-----	-----	-----	-----	-----	-----	-----	31.00	30.87	30.35	-----



Table 6.--Water levels in observation wells--Continued

Sullivan 4--Continued

(Daily highest water level from recorder graph, 1957)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
10	-----	-----	-----	-----	-----	-----	-----	-----	31.01	30.89	30.47	29.75
11	-----	-----	-----	-----	-----	-----	30.96	-----	31.01	30.90	30.49	29.76
12	-----	-----	-----	-----	-----	-----	30.86	-----	30.96	30.92	30.40	29.82
13	-----	-----	-----	-----	-----	-----	30.79	-----	30.96	30.90	30.21	29.80
14	-----	-----	-----	-----	-----	-----	30.78	30.94	-----	30.87	30.08	29.80
15	-----	-----	-----	-----	-----	-----	30.79	30.95	-----	30.80	30.12	29.80
16	-----	-----	-----	-----	-----	-----	30.80	30.97	-----	30.68	30.12	29.68
17	-----	-----	-----	-----	-----	-----	30.81	30.99	-----	30.67	30.02	29.56
18	-----	-----	-----	-----	-----	-----	30.80	30.99	-----	30.71	29.95	29.55
19	-----	-----	-----	-----	-----	-----	30.82	31.00	30.91	30.75	30.01	29.42
20	-----	-----	-----	-----	-----	-----	30.84	31.04	30.86	30.78	30.07	29.42
21	-----	-----	-----	-----	-----	-----	30.85	31.09	30.84	-----	30.15	29.60
22	-----	-----	-----	-----	-----	-----	30.82	31.06	30.85	30.73	30.11	-----
23	-----	-----	-----	-----	-----	-----	30.79	-----	30.90	30.51	30.07	-----
24	-----	-----	-----	-----	-----	-----	30.80	-----	30.92	30.50	30.05	29.63
25	-----	-----	-----	-----	-----	-----	30.84	-----	30.89	30.58	30.03	29.43
26	-----	-----	-----	-----	-----	-----	-----	-----	30.90	30.61	30.01	29.43
27	-----	-----	-----	-----	-----	-----	-----	-----	30.93	30.65	29.99	29.42
28	-----	-----	-----	-----	-----	-----	-----	31.00	-----	30.65	29.96	29.40
29	-----	-----	-----	-----	-----	-----	-----	31.02	-----	30.54	29.95	29.45
30	-----	-----	-----	-----	-----	-----	-----	31.04	30.96	30.48	29.95	29.45
31	-----	-----	-----	-----	-----	-----	30.79	31.01	-----	30.48	-----	29.40

(Daily highest water level from recorder graph, 1958)

1	29.42	-----	28.84	28.60	-----	27.89	-----	-----	27.66	27.85	27.75	27.60
2	29.53	-----	28.89	28.55	28.30	27.92	-----	-----	27.66	27.90	27.73	27.49
3	29.57	-----	28.90	28.49	-----	27.98	-----	-----	27.69	27.88	27.74	27.36
4	29.66	-----	28.92	28.46	-----	28.00	-----	-----	27.67	27.84	27.70	27.34
5	29.61	-----	28.89	28.33	-----	27.99	-----	-----	27.67	27.84	27.67	27.35
6	29.45	-----	28.87	28.30	-----	27.99	-----	-----	27.70	27.86	27.71	27.48
7	29.44	-----	28.85	28.33	-----	27.95	-----	-----	27.71	27.80	27.73	27.58
8	29.45	-----	28.77	28.48	-----	27.92	-----	-----	-----	27.78	27.64	27.51
9	29.42	-----	28.74	28.51	-----	27.84	-----	-----	-----	27.74	27.59	27.57
10	29.41	-----	28.78	28.47	-----	27.79	-----	-----	-----	27.74	27.65	27.65
11	29.42	-----	28.82	28.47	-----	27.79	-----	-----	27.76	27.81	27.74	27.56
12	29.42	29.12	28.79	28.49	28.15	27.79	27.60	27.51	27.79	27.88	27.75	27.55
13	29.32	29.12	28.74	28.53	28.16	27.72	27.60	27.52	27.80	27.88	27.72	27.62
14	29.29	29.09	28.75	28.50	28.18	27.72	-----	27.50	27.79	27.88	27.69	27.66
15	29.35	29.06	28.76	28.47	28.15	27.72	-----	27.50	27.79	27.84	27.60	27.66
16	29.36	29.11	28.75	28.48	28.11	27.73	-----	27.48	27.77	27.80	27.62	27.58
17	29.35	29.15	28.75	28.47	28.08	27.74	-----	27.51	27.72	27.80	27.53	27.58
18	29.37	29.15	28.75	28.44	28.07	27.74	-----	27.54	27.74	27.80	27.53	27.56
19	29.37	29.17	28.76	28.40	28.07	27.72	-----	27.53	27.78	27.79	27.58	27.47
20	29.27	29.19	28.73	28.35	28.09	27.72	-----	27.53	27.75	27.78	27.61	27.51
21	29.06	29.13	28.72	28.30	28.06	27.73	-----	27.55	27.75	27.78	27.61	27.61
22	29.07	29.13	28.73	28.28	28.03	27.68	-----	27.51	27.76	27.75	27.61	27.56

Table 6.--Water levels in observation wells--Continued

Sullivan 4--Continued

(Daily highest water level from recorder graph, 1958)

Day	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
23	29.16	29.05	28.72	28.26	28.03	27.67	-----	27.51	27.80	27.75	27.59	27.48
24	29.05	28.99	28.62	28.25	28.01	27.67	-----	27.56	27.80	27.76	27.59	27.52
25	29.01	28.96	28.62	28.38	28.01	27.68	-----	27.58	27.80	27.77	27.53	27.59
26	28.98	28.83	28.62	28.39	28.01	-----	-----	27.57	27.81	27.78	27.55	27.58
27	28.98	28.72	28.61	28.33	27.98	-----	-----	27.57	27.81	27.79	27.61	27.54
28	29.04	28.72	28.62	28.28	27.98	-----	-----	27.57	27.83	27.81	27.54	27.53
29	29.06	-----	28.61	-----	28.02	-----	-----	27.58	27.81	27.83	27.56	27.53
30	29.03	-----	28.58	-----	28.00	-----	-----	27.61	27.79	27.87	27.64	27.57
31	-----	-----	28.58	-----	27.90	-----	-----	27.65	-----	27.81	-----	27.46

(Daily highest water level from recorder graph, 1959)

1	27.36	27.67	27.39	27.26	27.30	27.44	27.53	27.82	27.98	28.17	28.09	27.98
2	27.35	27.66	27.34	27.23	27.35	27.46	27.56	27.84	27.98	28.17	28.09	27.98
3	27.35	27.43	27.43	27.22	27.38	27.49	27.63	27.86	28.02	28.16	28.03	27.97
4	27.41	27.39	27.39	27.32	27.40	27.50	27.60	27.83	28.08	28.17	27.92	27.93
5	27.61	27.42	27.20	27.35	27.40	27.48	27.57	27.82	28.11	28.14	27.92	27.92
6	27.59	27.58	27.19	27.38	27.41	27.50	27.57	27.81	28.11	28.10	28.05	27.89
7	27.53	27.59	27.33	27.37	27.45	27.51	27.60	27.80	28.11	28.10	28.17	27.89
8	27.54	27.52	27.36	27.36	27.52	27.53	27.65	27.81	28.13	28.08	28.17	27.89
9	27.61	27.29	27.34	27.37	27.45	-----	27.65	27.83	28.14	28.09	28.14	27.95
10	27.64	27.25	27.34	27.42	27.33	27.39	27.67	27.84	28.09	28.10	28.08	27.97
11	27.64	27.46	27.35	27.44	27.33	27.33	27.66	-----	28.10	28.10	28.07	27.81
12	27.60	27.47	27.35	27.45	27.35	27.33	27.67	-----	28.14	28.15	28.04	27.75
13	27.55	27.41	27.30	27.45	27.33	27.33	27.72	-----	28.16	28.14	27.98	27.83
14	27.38	27.38	27.24	27.46	27.34	27.39	27.76	-----	28.11	28.13	27.99	27.95
15	27.36	27.45	27.20	27.44	27.36	27.42	27.78	-----	28.07	28.13	28.08	27.93
16	27.38	27.41	27.37	27.43	27.39	27.39	27.78	-----	28.07	28.15	28.04	27.92
17	27.43	27.31	27.41	27.41	27.35	27.39	27.73	-----	28.14	28.15	28.10	-----
18	27.49	27.31	27.50	27.38	27.35	27.42	27.64	-----	28.20	-----	28.10	-----
19	27.45	27.45	27.48	27.28	27.38	27.44	27.64	-----	28.24	-----	28.06	-----
20	27.36	27.58	27.43	27.28	27.38	27.45	27.68	-----	28.23	-----	27.99	-----
21	27.28	27.62	27.41	27.34	27.42	27.42	27.73	-----	28.22e	28.18	27.96	-----
22	27.40	27.50	27.46	27.36	27.43	27.42	27.76	-----	28.22	-----	27.95	-----
23	27.58	27.40	27.44	27.37	27.49	27.44	27.77	-----	28.22	-----	27.87	-----
24	27.57	27.44	27.41	27.36	27.48	27.45	27.77	-----	28.23	-----	27.83	27.96
25	27.52	27.45	27.41	27.25	27.46	27.45	27.77	-----	28.22	-----	27.84	27.94
26	27.52	27.42	27.28	27.24	27.46	27.45	27.77	-----	28.09	-----	27.89	27.89
27	27.55	27.40	27.28	27.25	27.49	27.48	27.78e	28.03	28.09	-----	27.93	27.75
28	27.54	27.40	27.42	27.20	27.48	27.50	27.77	28.03	28.10	28.13	28.00	27.68
29	27.46	-----	27.43	27.26	27.45	27.52	27.77	28.01e	28.12	28.15	28.02	27.69
30	27.47	-----	27.37	27.27	27.44	27.53	27.79	28.00e	28.16	28.16	28.01	27.75
31	27.61	-----	27.36	-----	27.43	-----	27.81	28.01	-----	28.13	-----	27.82

PUBLICATIONS OF COOPERATIVE GROUND-WATER PROGRAM

Report

Ground-water resources of the Indianapolis area, Marion County, Ind. C. L. McGuinness. Indiana Dept. Conserv., Div. Geology. 1943.

Bulletins

- No. 1 Memorandum concerning a pumping test at Gas City, Ind. J. G. Ferris. Ind. Dept. Conserv., Div. Water Resources. 1945.
- 2 A preliminary report of the ground-water levels of the State based on records of twenty-six observation wells for which long time records are available. Anonymous. Ind. Dept. Conserv., Div. Water Resources. 1946 (Out of print).
- 3 Ground-water resources of St. Joseph County, Ind. Part 1, South Bend area. F. H. Klaer, Jr., and R. W. Stallman. Ind. Dept. Conserv., Div. Water Resources. 1948.
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- 10 Ground-water resources of Northwestern Ind., Preliminary Report: Lake County. J. S. Rosenshein. Ind. Dept. Conserv., Div. Water Resources. 1961.
- 11 Ground-water resources of West-Central Ind., Preliminary Report: Greene County. F. A. Watkins, Jr., and D. G. Jordan. Ind. Dept. Conserv., Div. Water Resources. 1961.
- 12 Ground-water resources of Northwestern Ind., Preliminary Report: Porter County. J. S. Rosenshein. Ind. Dept. Conserv., Div. Water Resources. 1962.

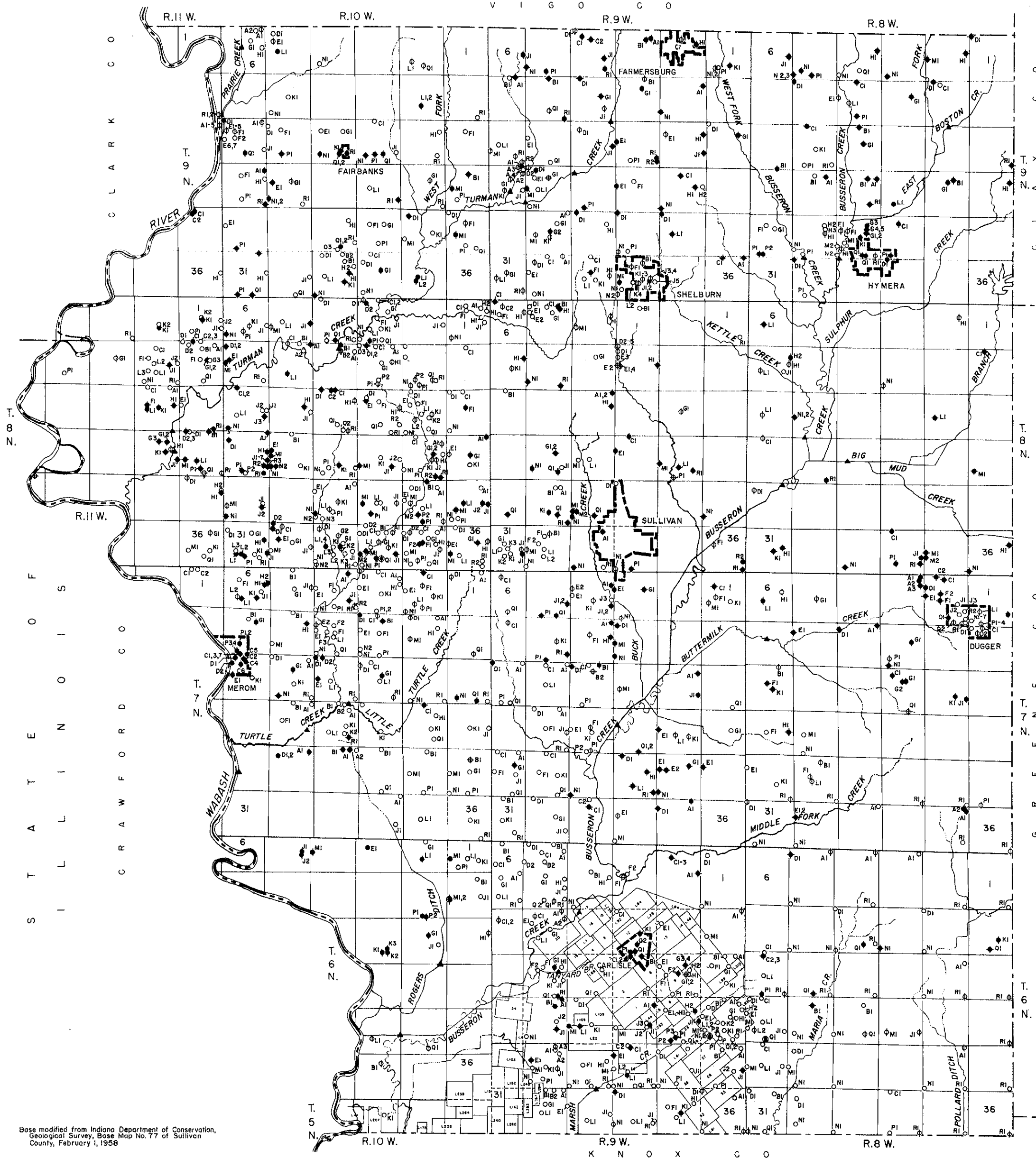
Bulletins--Continued

- No. 13 Ground-water resources of Northwestern Ind., Preliminary Report:  
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- 14 Ground-water resources of West-Central Ind. Preliminary Report:  
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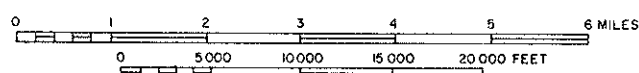


EXPLANATION

- B1 Water well
- ⊙ R5 Observation well
- ⊙ O1 Spring
- R1 Oil well, test hole, drain hole, or hole drilled for purposes other than water supply
- ◆ P1 Well for which log is listed in table 2
- ◆ C2 Well or spring for which field chemical analysis is listed in table 3 or 4
- ▲ Stream-water sampling site - field chemical analysis of water in table 5

Base modified from Indiana Department of Conservation, Geological Survey, Base Map No. 77 of Sullivan County, February 1, 1958

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



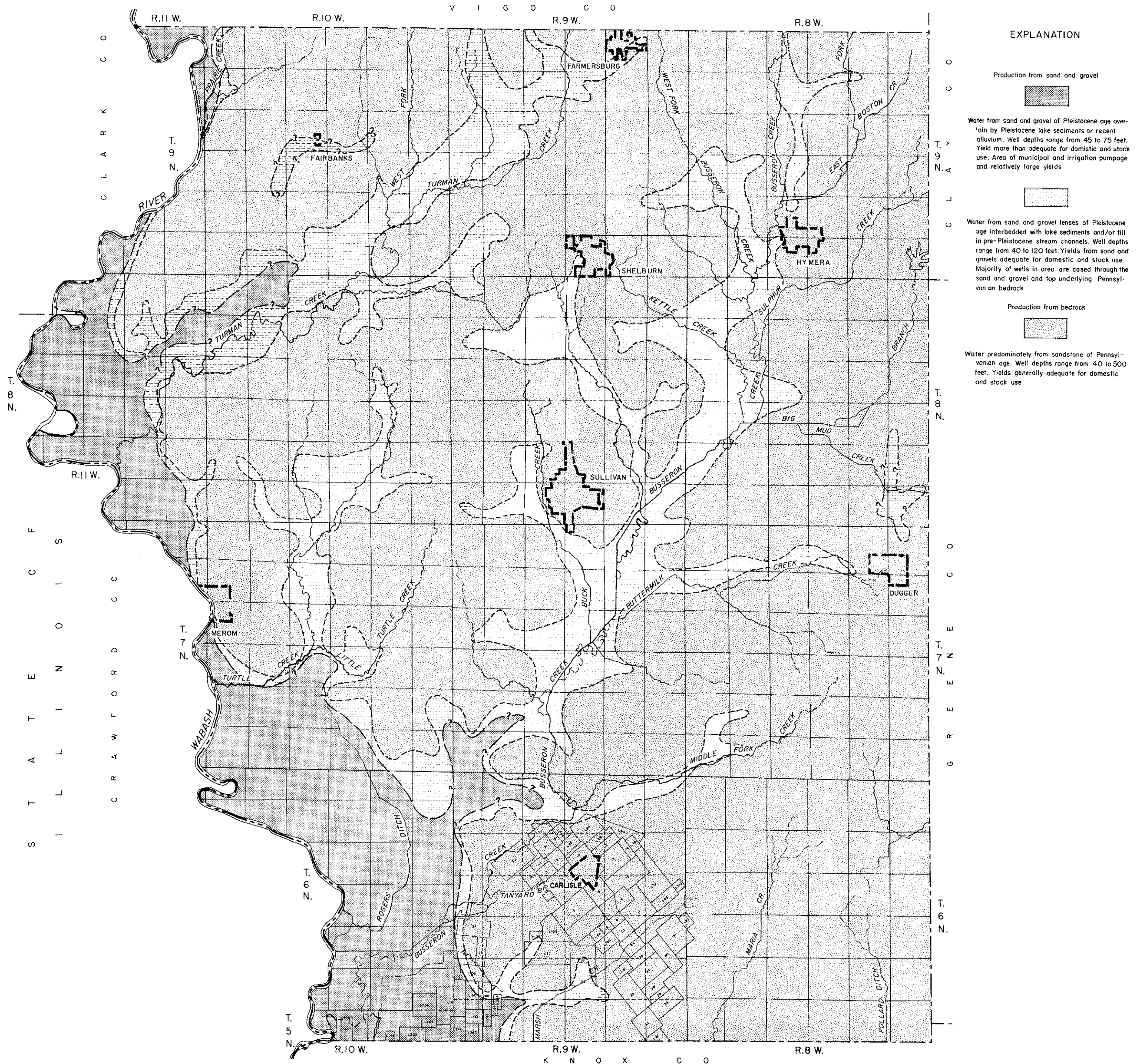
BY F. A. WATKINS, JR. AND D. G. JORDAN  
1960

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

DIAGRAM OF TOWNSHIP

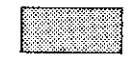
D	C	B	A
E	F	G	H
M	L	K	J
N	P	Q	R

SECTION LETTER SYMBOLS IN WELL-NUMBERING SYSTEM.

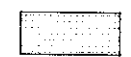


EXPLANATION

Production from sand and gravel

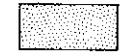


Water from sand and gravel of Pleistocene age overlain by Pleistocene lake sediments or recent alluvium. Well depths range from 45 to 75 feet. Yield more than adequate for domestic and stock use. Area of municipal and irrigation pumpage and relatively large yields



Water from sand and gravel lenses of Pleistocene age interbedded with lake sediments and/or fill in pre-Pleistocene stream channels. Well depths range from 40 to 120 feet. Yields from sand and gravels adequate for domestic and stock use. Majority of wells in area are cased through the sand and gravel and top underlying Pennsylvanian bedrock

Production from bedrock

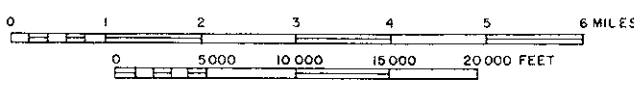


Water predominately from sandstone of Pennsylvanian age. Well depths range from 40 to 500 feet. Yields generally adequate for domestic and stock use

6	5	4	3	2	1
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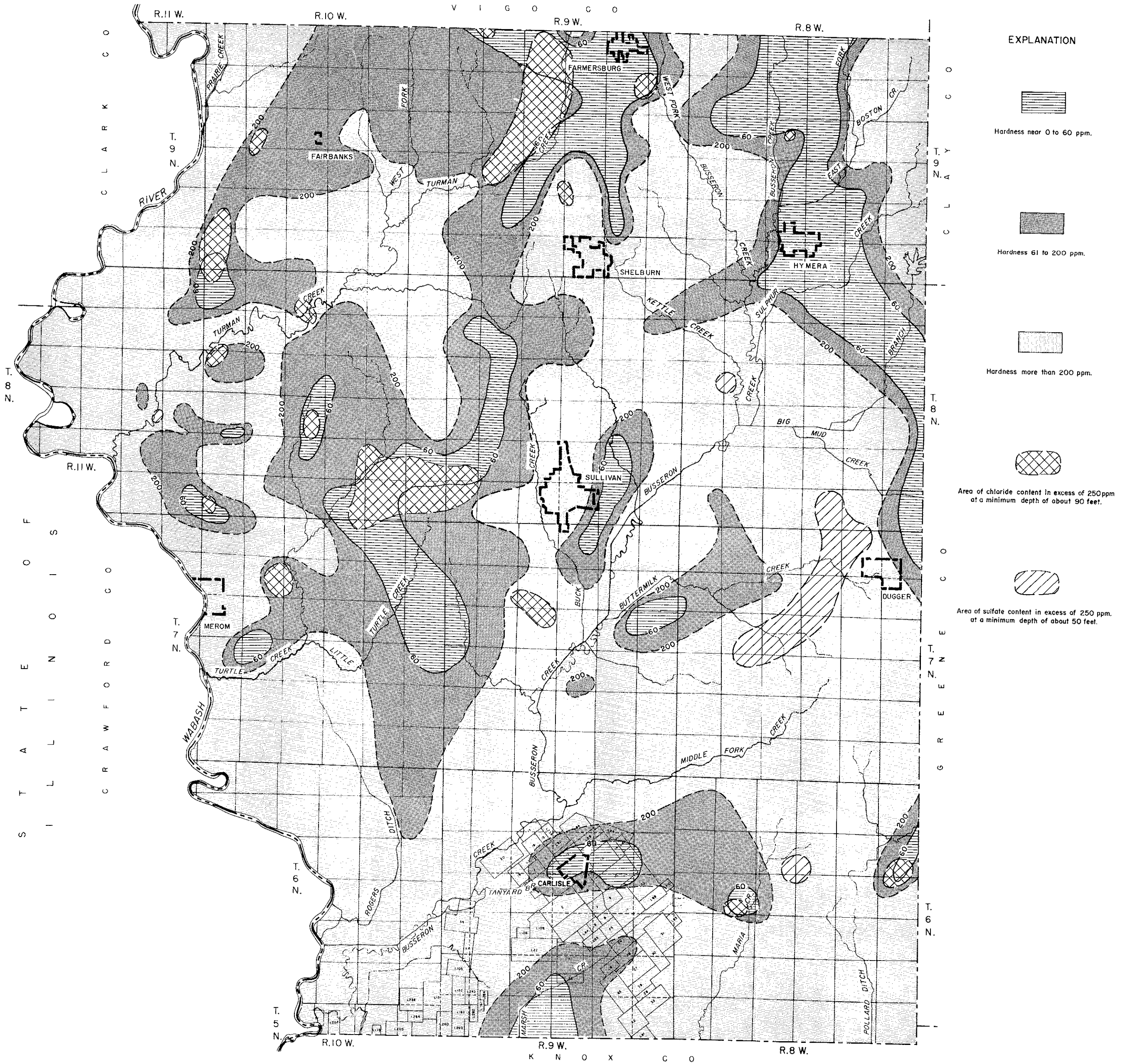
DIAGRAM OF TOWNSHIP

MAP OF SULLIVAN COUNTY, INDIANA SHOWING  
AVAILABILITY OF GROUND WATER

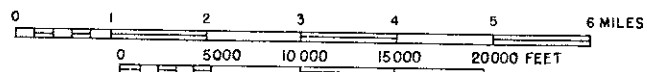


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Base modified from Indiana Department of Conservation,  
Geological Survey Base Map No. 77 of Sullivan  
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SULLIVAN COUNTY, INDIANA, SHOWING  
 HARDNESS OF GROUND WATER



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DIAGRAM OF TOWNSHIP