

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-5P1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Shale, soft-----	6	46	
Shale, dark-----	24	70	
Slate, black-----	3	73	
Coal-----	2	75	
Shale, dark-----	5	80	
Limestone-----	10	90	W. B.
Shale, soft, dark-----	10	100	
Red rock-----	5	105	
Limestone, broken-----	1	106	

Well 9/9W-6J1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	12	12	
Hardpan-----	18	30	
Sand and shale-----	15	45	Sand and clay (?)
Shale, yellow-----	16	61	Clay (?)
Gravel-----	--	61	

Well 9/9W-7A1

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

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	15	15	
Hardpan-----	25	40	
Shale, gray-----	17	57	Clay (?)
Boulder, limestone-----	5	62	
Shale, soft, dark-green-----	11	73	Clay (?)
Sand-----	1	74	Gas
Hardpan-----	8	82	
Pennsylvanian system:			
Middle series:			
Sandstone-----	10	92	
Shale, dark-----	3	95	
Shale, gray-----	5	100	

Well 9/9W-7B1

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

Quaternary system:			
Recent and Pleistocene series:			
Soil and clay-----	30	30	
Hardpan-----	40	70	
Sand-----	3	73	W. B.

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

Well 9/9W-7B1--Continued

Material	Thick- ness (feet)	Depth (feet)	Remarks
Pennsylvanian system:			
Middle series:			
Sandstone-----	19	92	
Shale-----	21	113	
Coal-----	2	115	
Shale-----	10	125	
Sandstone-----	20	145	
Shale-----	5	150	
Coal-----	2	152	
Shale, gray-----	43	195	
Coal-----	2	197	
Slate, black-----	3	200	

Well 9/9W-8B1

Type of record: Driller's log.

Altitude: About 560 feet.

Quaternary system:			
Recent and Pleistocene series:			
Surface and clay-----	15	15	
Hardpan and gravel-----	23	38	
Pennsylvanian system:			
Middle series:			
Shale, sandy-----	12	50	
Shale, soft, gray-----	15	65	
Slate, dark-----	4	69	
Coal-----	1	70	
Shale, light-----	8	78	
Limestone, hard-----	3	81	
Shale, light-----	2	83	
Limestone, hard-----	3	86	W. B.
Red rock-----	9	95	
Limestone, broken-----	8	103	
Shale, sandy-----	27	130	
Sandstone-----	40	170	W. B.

Well 9/9W-8Q1

Type of record: Driller's log.

Altitude: About 545 feet.

Quaternary system:			
Recent and Pleistocene series:			
Clay-----	18	18	
Hardpan-----	22	40	
Sand and gravel-----	51	91	
Pennsylvanian system:			
Middle series:			
Limestone-----	1	92	
Shale-----	1	93	
Limestone-----	3	96	
Shale, gray-----	3	99	

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-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.

Material	Thick- ness (feet)	Depth (feet)	Remarks
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
2C2	Ss, Sd-Sh	P	10-20-59	--	.5	444	1,850	28	2,150
2E1	Ss	P	12-23-57	--	.3	639	-----	8	572
2F1	C	P	8-18-59	--	.5	254	235	9	312
2F2	Ss, Ls	P	8-18-59	--	7.5	439	1,240	50	1,480
3A3	Sd-Sh	P	3-22-60	54	.5	512	630	10	952
8E1	Ss	P	3-30-60	--	.5	268	44	16	92
9A1	C	P	3-22-60	--	.3	38	240	94	292
9D1	-----	P	2-26-58	52	1.0	142	-----	31	112
10N1	-----	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
5P1	Ss	P	1957	56	.1	503	-----	6	176
8P1	Sd-Sh	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	Ss	P	12-10-57	--	.1	366	-----	50	468
25J1	Ss,Ls	P	10-15-59	--	.3	376	15	100	30
25M1	Ss,C	P	2-26-58	--	.5	1,540	-----	764	42
26B1	Sh	P	10-15-59	--	.3	625	32	14	208
26P2	Ss,Sh	P	11- 3-59	--	.3	1,580	16	1,190	22
27P1	Ss	P	1957	56	.1	527	-----	38	92
28N1	Sh,C	P	10-14-59	57	.5	468	8	16	140
30J2	S,G	P1	2-11-60	--	7.5	581	50	56	504
30N1	-----	P	2-11-60	--	.1	371	110	36	436
31L1	Sd-Sh	P	12-11-57	--	.5	508	-----	428	27
31L2	Ss	P	12-11-57	--	1.5	379	-----	124	74
32D1	Ls	P	11- 3-59	--	.3	346	25	7	276
32E1	Sh,Ss	P	11- 3-59	--	.3	312	35	10	276
34J1	S	P1	10-14-59	--	.1	1,490	13	608	26
34M1	Ss	P	10-14-59	--	.3	644	11	74	30
35F1	C,Ss	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	Ss,Ls	P	3-30-60	52	.1	1,330	73	844	120
8/11W-1K1	G	P1	10-14-59	57	5.0	664	14	96	236
11J1	G	P1	10- 9-59	--	1.5	522	12	90	252
12C1	S	P1	2-11-60	--	.5	264	7	40	152
12G2	Ls,C	P	10- 9-59	--	2.5	625	17	78	212
14F1	G	P1	10- 9-59	57	.3	371	25	44	240
14H1	Ss(?)	P(?)	12- 4-57	--	.3	85	-----	142	228
23G1	G	P1	11- 3-59	54	.5	298	45	14	268
23G2	S,G	P1	10- 8-59	57	1.0	239	24	7	192
23J1	Ss,Ls	P	10- 8-59	--	.5	473	340	30	360
23K1	Ss	P	11- 3-59	54	.5	288	40	10	272
24B1	Ss	P	10- 8-59	58	.1	322	13	14	300
24D2	G	P1	2-11-60	--	7.5	381	18	6	284
24D3	-----	P	2-11-60	--	2.0	512	74	14	464
24L1	Ss,C	P	10- 8-59	--	.1	512	8	10	76
	Ls	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
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-1D1	G	P1	2-11-60	--	.3	429	24	7	248	
2H1	Ss	P	12-31-59	--	.1	439	-----	8	306	
2M1	Ss	P	4-57	52	.3	459	10	2	172	
3N1	Ss	P	8-25-59	--	.3	703	9	6	12	
4H1	Ss	P	10-21-59	56	.3	698	-----	16	38	
5N2	Ss,Ls	P	1-20-58	54	1.0	630	-----	12	120	
5P1	Ss	P	1-20-58	54	.1	722	-----	220	78	
6J1	Ss,Ls	P	1-20-58	54	.3	571	-----	31	280	
9C1	Ss	P	2-18-58	--	.1	754	-----	10	20	
9P1	G(?)	P1(?)	4-57	56						
10G1	Ss	P	10-21-59	58	.1	932	8	28	7	
11D1	Ss	P	1-20-58	54	.5	449	-----	22	42	
13R1	S	P1	11- 4-59	--	2.5	478	85	16	400	
16B1	-----	-----	3-30-60	--	.1	156	150	118	236	
16G1	Ss	P	1-21-58	--	.3	1,040	-----	20	4	
17C1	Ss	P	10-21-59	--	.3	20	16	300	92	
20A1	Ss	P	11- 4-59	--	.1	976	15	70	16	
21A1	Sd-Ls	P	10-21-59	--	.3	420	85	46	364	
21B1	C	P	11- 4-59	--	.1	893	15	32	5	
21R1	Ss	P	10-21-59	--	1.0	747	15	26	56	
23B1	G	P1	10-21-59	--						
24H1	Sd-Sh	P								
21R1	Ls	P	10-21-59	--	.1	903	11	46	4	
23B1	Ss	P	2- 9-60	51	.3	146	78	26	264	
24H1	Ss	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
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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	Jan. 7	1.86	31	6.37
22	4.92	Aug. 23	9.79	28	2.34	Feb. 7	6.50
28	2.95	Sept. 22	8.57	Apr. 2	2.44	14	6.58
Dec. 5	5.36	29	8.40	6	1.40	21	6.85
12	1.94	Oct. 9	9.00	13	1.38	28	6.41
19	4.67	16	9.00	20	3.04	Mar. 7	2.97
1949		19	9.47	26	4.12	15	2.56
		27	8.46	May 3	5.33	20	2.09
Jan. 2	0.96	Nov. 4	10.79	10	6.02	Apr. 4	3.63
16	3.64	25	9.46	17	6.85	11	4.25
23	3.54	Dec. 3	10.15	24	7.30	19	3.95
May 12	6.85	11	10.42	31	7.63	25	4.13
19	7.08	1951		June 7	7.93	May 3	4.42
26	7.45			21	8.45	10	5.15
June 2	7.94	Jan. 7	0.46	28	8.38	18	2.29
9	7.49	26	2.85	July 5	8.69	23	3.97
16	7.22	12	4.70	13	8.83	31	6.20
23	7.41	Mar. 5	1.75	20	9.03	June 6	7.00
20	7.28	19	1.76	26	9.26	13	7.89
July 7	7.32	26	1.86	Aug. 2	9.46	20	7.39
22	7.17	Apr. 2	1.88	9	9.65	27	9.00
Sept. 14	10.31	9	1.69	16	9.88	July 11	9.56
24	10.48	23	2.77	24	10.17	19	9.67
Oct. 21	9.10	30	3.92	30	10.35	Aug. 1	10.10
Nov. 16	7.94	May 7	3.48	Sept. 6	10.45	8	10.29
28	7.54	13	5.20	13	10.67	16	10.55
Dec. 5	6.94	20	5.73	20	10.78	22	10.80
12	1.94	28	6.46	27	10.99	29	11.04
		June 4	6.78	Oct. 4	11.22	Sept. 5	11.30
						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	-----	-----	e7.00
21	-----	-----	-----	8.07	8.07	9.14	11.80	-----	12.47	-----	-----	6.98
22	-----	e7.40	-----	-----	8.09	9.15	11.75	-----	12.64	-----	e9.38	-----
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

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- 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).
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- 4 Ground-water resources of Boone County, Ind. E. A. Brown. Ind. Dept. Conserv., Div. Water Resources. 1949.
- 5 Ground-water resources of Noble County, Ind. R. W. Stallman and F. H. Klaer, Jr. Ind. Dept. Conserv., Div. Water Resources. 1950.
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- 9 Ground-water resources of Adams County, Ind. F. A. Watkins, Jr., and P. E. Ward. Ind. Dept. Conserv., Div. Water Resources. 1962.
- 10 Ground-water resources of Northwestern Ind., Preliminary Report: Lake County. J. S. Rosenshein. Ind. Dept. Conserv., Div. Water Resources. 1961.
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## INDEX

---

	Page
Abstract-----	1
Acknowledgments-----	5
Analyses of ground-water-----	1,5,9
hardness of water-----	9
methods of analysis-----	5
U. S. Public Health Service drinking water standards-----	9
Bibliography-----	10
Conditions, ground-water-----	6,8
Conditions, hydrologic-----	6
confined or artesian-----	7
unconfined or water table-----	7
Conditions, quality of water-----	7,8
Data, collection and processing-----	5
water levels-----	5
water samples-----	5
well records-----	5
Geology, general-----	6
consolidated rocks-----	6
Pennsylvanian age-----	6
unconsolidated rocks-----	6
Pleistocene and Recent Age-----	6
well logs-----	35
Location of area-----	2
Publications, cooperative ground-water program-----	343
Records-----	8
field chemical analysis-----	9
springs-----	9,327
streams-----	9,328
wells-----	9,318
springs-----	9,327
numbering system-----	4
streams-----	9,328
water levels-----	9,331
wells-----	8,11
well logs-----	8,35
Summary-----	8
Water levels-----	9,331
Wells-----	7
construction of-----	7
drilled-----	7
driven-----	8
dug-----	8
logs-----	8,35
numbering system-----	4
observation-----	5,9
tests, for oil, gas, and holes drilled for purposes other than water-----	5,7,8