



Ground-Water Resources of MARION COUNTY

by Katie Shafer Crowell

AREAS IN WHICH 100 TO 500 GALLONS PER MINUTE CAN BE DEVELOPED

Principal aquifer is the limestone bedrock. Although yields in excess of 1000 gallons per minute have been proven at depths less than 300 feet, regional yields are less than 500 gallons per minute. Farm and domestic supplies of 10 to 15 gallons per minute can usually be developed at depths of less than eighty feet.

AREAS IN WHICH LESS THAN 3 GALLONS PER MINUTE CAN BE DEVELOPED

Clayey till above non-water bearing shale yields less than 4 gallons per minute. Dry wells and cisterns are not uncommon. Wells developed in limestone beneath thick shale have produced yields in excess of 400 gallons per minute. Special methods of well construction sealing off shale and surficial limestone has not been successful in improving quality.

850 Contour on bedrock surface. Altitude in feet above mean sea level. Bedrock contour interval is 50 feet.

The ground water characteristics of Marion County have been mapped regionally, based upon interpretation of 4700 water well records, the area's geology and hydrology. Well log data was selected as typical for the areas shown. Information regarding specific sites may be obtained from the Division of Water.

Depth (ft.)-Water bearing Formation-Yield(gpm)
Depth to Bedrock (ft.)

• Water Well LS-Limestone
SG-Sand & Gravel SH-Shale

TOWNSHIP-MARION MUNICIPALITY-MARION

Scale in miles



Contour Interval: 10 feet

① Test Well Site - Chemical Analyses

Well Site	1	2	3	4
Depth (feet)	290	310	300	210
Critical Pumping Level (feet)	147	80	190	100
Iron (Fe) ppm	.75	1.5	.6	.5
Hardness CaCo3	445-1500	426	470	440
Dissolved Solids	604	497	554	501
Sulfates	200	123	170	120
Hydrogen Sulfide	.3	0	.3	.2
Sodium	18	—	14	6.2
Chloride	13-35	1.0	8-22	5-30
Chemical constituents as mg/l.				



Index Map



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