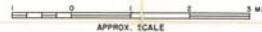


AVAILABILITY OF GROUND WATER IN JOHNSON COUNTY, INDIANA



- AREAS IN WHICH YIELDS UP TO 5 GALLONS PER MINUTE CAN BE DEVELOPED**
- Wells in this area generally obtain water from the Borden shale or "Knobrock." The depth to shale generally ranges from a few feet to about 25 feet; however depths of over 100 feet do occur. Depths of drilled wells in this area range from 40 to 250 feet. Many holes are dry, while a few wells are rated as high as 10-15 gpm. Yields are extremely poor unless a fractured zone or stratum of porous sandstone is penetrated. Cisterns and dug wells are common in some areas.
 - Although a few wells in this area encounter thin sand or gravel formations, generally, wells must be completed in the Borden shale, the New Albany shale, or, far more dependable production, the Devonian limestone. Poor production from both shale formations and mineralized water from the limestone are almost certain. Well depths in this area range from 50 to 250 feet; most wells are four inches in diameter but many six-inch and eight-inch diameter holes are drilled.
- AREAS IN WHICH YIELDS UP TO 25 GALLONS PER MINUTE CAN BE DEVELOPED**
- Most wells in this area are completed in rather thin sand and gravel formations lying above the shale; however a few are completed in the Borden or deeper strata. Glacial drift ranges from about 50 feet to over 250 feet in thickness; chances for a sand and gravel well are better (and chances for higher production are also better) where the shale is more deeply buried. Most of the wells use four inches in diameter and are 100 feet or less deep. In several locations, gravel wells are capable of producing in excess of 25 gpm.
 - Wells in this area are located in tributary valleys of larger streams and are completed in sand or shale. Well depths generally are less than 150 feet.
- AREAS IN WHICH YIELDS UP TO 100 GALLONS PER MINUTE CAN BE DEVELOPED**
- Wells in this area are completed in sand and/or gravel; depths range from 50 to 150 feet. Most domestic wells are four inches in diameter; larger diameter wells are used for greater yields.
 - Wells in this area are located in tributary valleys of larger streams or in buried bedrock valleys, and are completed in gravel. Well depths generally are less than 100 feet.
 - This is a high and steeply rolling area of some or lesser deposits. Great thicknesses of sands and gravels are present here. Wells are completed in sand and gravel, and with proper construction and development, might yield in excess of 100 gpm.

- AREAS IN WHICH YIELDS UP TO 250 GALLONS PER MINUTE CAN BE DEVELOPED**
- Wells in this area are completed in sand and gravel and range from 25 to over 200 feet deep. Because this area is associated with a major valley, moderately large amounts of water can be obtained from wells less than 100 feet deep.
 - This is an area of predominately shallow, drive-point wells terminating in the top of a thick aquifer connected to the major flood plain. On the higher ground levels, clay is often encountered above the aquifer so that deeper and larger diameter wells are required. In this area, properly sized and screened wells might obtain 250 gpm or more.
- AREAS IN WHICH YIELDS OVER 250 GALLON PER MINUTE CAN BE DEVELOPED**
- Wells located within the topographic confines of the major valleys in Johnson County are capable of obtaining extremely large amounts of water from extensive gravel formations. Yields in excess of 2,000 gpm have been obtained. Wells are generally less than 100 feet deep.

TEXT

The amount of water available to wells depends upon the type of geologic formation present in the area. Ground water is contained in the small pore spaces in the rocks; the number, arrangement and size of these openings determine the water-bearing characteristics of a particular geologic formation. Because the geology differs from place to place, wide variations in ground-water conditions may be expected.

Yields of water wells in Johnson County range from 0 gallons per minute (dry) to over 2,000 gallons per minute. The area shown in red on the map indicates an area underlain by shale or "Knobrock" and because this rock has little effective porosity, well yields are quite low. With few exceptions, wells in these areas are "seep wells" and yield small amounts of water.

Glacial deposits cover the shale throughout the county, and in areas where they attain a thickness of fifty feet or more they hold some potential as an aquifer. Beds of sand and gravel within the glacial drift will yield supplies adequate for domestic, agricultural and light industrial needs.

The area outlined in blue represents major stream valleys with deposits of sand and gravel. All major ground-water supplies in the county are located within these valleys. Through proper well construction, yields in excess of 2,000 gallons per minute may be anticipated in some areas.

Records of approximately 925 water wells in Johnson County are on file with the Division of Water in the Department of Natural Resources. These records, along with other data on file, and geologic reconnaissance were used in the preparation of this report. (More specific information may be obtained from the Division of Water.)