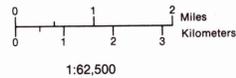


# Ground-Water Resources of MONTGOMERY COUNTY

by James J. Schmidt



## Well Yields

AREAS IN WHICH YIELDS OF MORE THAN 500 TO 1,000, OR MORE, GALLONS PER MINUTE MAY BE DEVELOPED.

Permeable sand and gravel deposits beneath the floodplain of the Mad and Miami Rivers. Properly constructed large diameter drilled wells yield in excess of 1,000 gallons per minute at depths ranging from 85 feet to as much as 185 feet.

AREAS IN WHICH YIELDS OF 100 TO 500 GALLONS PER MINUTE MAY BE DEVELOPED.

Regionally extensive, thick permeable deposits of sand and gravel may yield as much as 500 gallons per minute. Extensive test drilling is recommended to locate coarse deposits at average depths of 75 feet but ranging from 30 to as much as 150 feet.

AREAS IN WHICH YIELDS OF AS MUCH AS 75 GALLONS PER MINUTE MAY BE DEVELOPED.

Niagaran limestone aquifer beneath glacial drift of variable thickness. Wells range from 40 to 116 feet deep, although average well is less than 60 feet deep.

Water-bearing deposits of sand and gravel interbedded with thick layers of clayey till. Glacial deposits may be more than 250 feet thick but permeable deposits are usually developed at average depths of 65 feet.

AREAS IN WHICH YIELDS OF 5 TO 20 GALLONS PER MINUTE MAY BE DEVELOPED.

Relatively shallow basal Niagaran limestone aquifer yields as much as 15 gallons per minute at depths of less than 90 feet. Deeper drilling to non-water-bearing Ordovician shaly limestone is not recommended.

Ground water obtained from thin, not extensive, sand and gravel deposits interbedded with relatively thick layers of clayey till. Wells are usually developed at depths of less than 135 feet and deeper drilling into the underlying bedrock may be non-productive.

End moraine consisting of clay with sand and gravel layers. Depth to rock may range from 160 to 230 feet. Wells encountering coarse sands and gravels may obtain yields of 10 to 15 gallons per minute from properly developed screened wells. Shale bedrock is a poor water source.

AREAS IN WHICH YIELDS OF 3 TO 10 GALLONS PER MINUTE MAY BE DEVELOPED.

Average yields for wells developed in basal Silurian limestone bedrock ranges from 4 to 6 gallons per minute. Drilling deeper than 80 feet is not advisable owing to the presence of the non-water-bearing Ordovician shaly limestone bedrock. Cisterns and/or storage may be necessary for peak periods of water demand.

Relatively thick unconsolidated glacial deposits of silty sand and clayey till. Thin layers of water-bearing sand and gravel may be encountered at depths ranging from 30 to more than 300 feet. Cautious drilling advisable to attempt the development of relatively meager supplies.

AREAS IN WHICH YIELDS OF LESS THAN 2 GALLONS PER MINUTE MAY BE DEVELOPED.

Clayey till usually less than 40 feet thick overlying non-water-bearing Ordovician shaly limestone bedrock. Very meager supplies are developed with cisterns and/or additional storage necessary to maintain daily water requirements.

## Note

The ground-water characteristics have been mapped regionally, based upon interpretations of water well records and the area's geology and hydrology. Well sites mapped were selected as typical for the areas shown. Information regarding specific sites may be obtained from the Division of Water.

## Well Site Symbols

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



Depth to Bedrock (ft.)

- FS - Fine Sand
- S - Sand
- G - Gravel
- SG - Sand & Gravel
- CL - Clay
- SH - Shale
- LS - Limestone

- Well Site
- Municipal-Industrial Well

