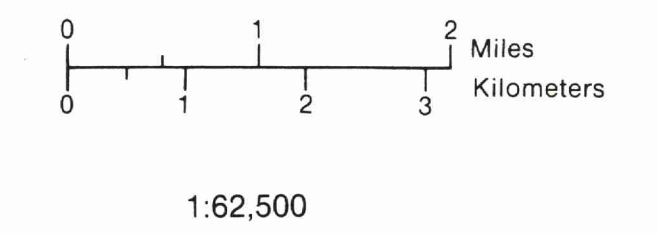


# Ground-Water Resources of BUTLER COUNTY

by  
James J. Schmidt



## Well Yields

AREAS IN WHICH YIELDS OF 500 TO 1000, OR MORE, GALLONS PER MINUTE MAY BE DEVELOPED.

Permeable sand and gravel deposits in ancestral drainage channels. Large diameter, screened wells yield in excess of 1000 gallons per minute at depths ranging from 85 feet to as much as 220 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 95 feet but ranging from 35 to as much as 150 feet.

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

Water-bearing deposits of sand and sand and gravel interbedded with thick layers of clayey till. Glacial deposits may be as much as 170 feet thick but wells are usually developed at average depths of 75 feet.

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

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 well. Shale bedrock is a poor water source.

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 55 feet and deeper drilling into the underlying bedrock is non-productive.

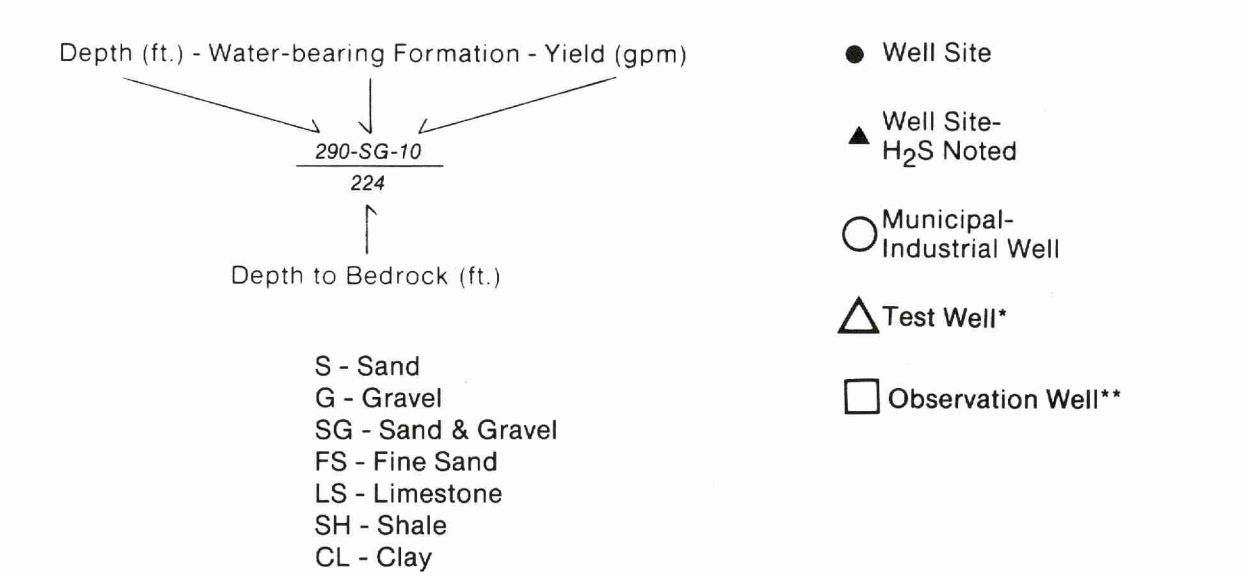
AREAS IN WHICH YIELDS OF 3 TO 10 GALLONS PER MINUTE MAY BE DEVELOPED.

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 25 to more than 150 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 35 feet thick overlying non-water-bearing shaly limestone bedrock. Very meager supplies are developed with cisterns and/or additional storage necessary to maintain daily water requirements.

## Well Site Symbols



## Chemical Analysis Table

Well Site	Bu-5	Bu-7	Bu-8	Bu-9	Bu-56
Hardness as CaCO <sub>3</sub>	320	330	340	680	370
Sulfate (SO <sub>4</sub> )	54	52	3.2	190	72
Dissolved Solids	410	362	800	825	478
Iron (Fe)	2.60	0.68	3.70	1.80	0.90
Sodium (Na)	18	4.9	140	75	26
Nitrogen, Ammonia as N	0.07	—	1.00	0.04	0.01

Chemical constituents as milligrams per liter (mg/l).

## Remarks

\* Test well sites indicate the location of a test well that was part of a regional ground water study. Detailed lithologic logs, water quality analysis and pumping test information for these wells may be available from ODNR-Division of Water.

\*\* Observation well sites indicate the location of wells used to collect ground-water level information. These wells are part of the State observation well network. Hydrographs of the water levels recorded in these and other State observation wells can be obtained through ODNR-Division of Water.

Total copies printed: 500  
Unit cost: \$4.900  
Publication date: 3/93

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.

Published 1986  
Reprinted 1993  
Ohio Department of Natural Resources  
Division of Water  
Ground Water Resources Section  
1939 Fountain Square  
Columbus, Ohio 43224



Cartography: David S. Orr