

# Ground Water Resources of LAKE COUNTY

by James J. Schmidt



**Well Site Symbols**

**WELL INFORMATION (SEE NOTE)**

DEPTH (ft.) Total depth of well in feet.

WELL SITE Approximate well location

**WELL TYPES**

- Well Site
- Municipal-Industrial Well

**AQUIFER TYPE** Water-bearing formation

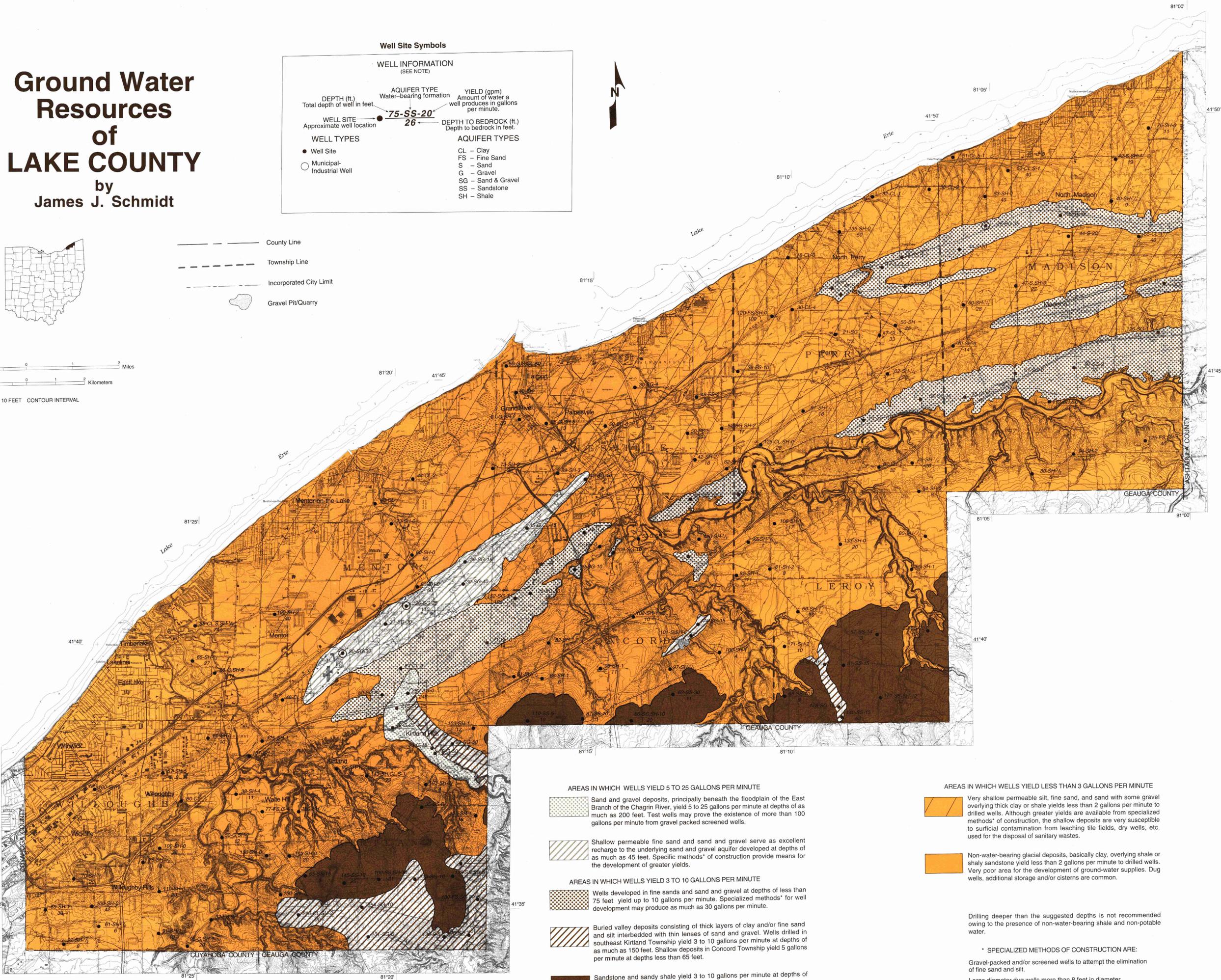
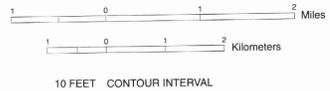
**YIELD (gpm)** Amount of water a well produces in gallons per minute.

**DEPTH TO BEDROCK (ft.)** Depth to bedrock in feet.

**AQUIFER TYPES**

- CL - Clay
- FS - Fine Sand
- S - Sand
- G - Gravel
- SG - Sand & Gravel
- SS - Sandstone
- SH - Shale

- County Line
- Township Line
- Incorporated City Limit
- Gravel Pit/Quarry



- AREAS IN WHICH WELLS YIELD 5 TO 25 GALLONS PER MINUTE**
- Sand and gravel deposits, principally beneath the floodplain of the East Branch of the Chagrin River, yield 5 to 25 gallons per minute at depths of as much as 200 feet. Test wells may prove the existence of more than 100 gallons per minute from gravel packed screened wells.
  - Shallow permeable fine sand and sand and gravel serve as excellent recharge to the underlying sand and gravel aquifer developed at depths of as much as 45 feet. Specific methods\* of construction provide means for the development of greater yields.
- AREAS IN WHICH WELLS YIELD 3 TO 10 GALLONS PER MINUTE**
- Wells developed in fine sands and sand and gravel at depths of less than 75 feet yield up to 10 gallons per minute. Specialized methods\* for well development may produce as much as 30 gallons per minute.
  - Buried valley deposits consisting of thick layers of clay and/or fine sand and silt interbedded with thin lenses of sand and gravel. Wells drilled in southeast Kirtland Township yield 3 to 10 gallons per minute at depths of as much as 150 feet. Shallow deposits in Concord Township yield 5 gallons per minute at depths less than 65 feet.
  - Sandstone and sandy shale yield 3 to 10 gallons per minute at depths of 40 to 150 feet.

- AREAS IN WHICH WELLS YIELD LESS THAN 3 GALLONS PER MINUTE**
- Very shallow permeable silt, fine sand, and sand with some gravel overlying thick clay or shale yields less than 2 gallons per minute to drilled wells. Although greater yields are available from specialized methods\* of construction, the shallow deposits are very susceptible to surficial contamination from leaching tile fields, dry wells, etc. used for the disposal of sanitary wastes.
  - Non-water-bearing glacial deposits, basically clay, overlying shale or shaly sandstone yield less than 2 gallons per minute to drilled wells. Very poor area for the development of ground-water supplies. Dug wells, additional storage and/or cisterns are common.
- Drilling deeper than the suggested depths is not recommended owing to the presence of non-water-bearing shale and non-potable water.
- \* SPECIALIZED METHODS OF CONSTRUCTION ARE:
- Gravel-packed and/or screened wells to attempt the elimination of fine sand and silt.
  - Large diameter dug wells more than 8 feet in diameter.
  - Shallow ponds as much as 1/2 to 3 acres in area.

**NOTE**

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

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