Ground-Water Resources of STARK COUNTY

by Alfred C. Walker

Well Yields

AREAS IN WHICH YIELDS OF MORE THAN 500 GALLONS PER MINUTE CAN BE DEVELOPED.

- Best ground-water areas in Stark County. Permeable sand and gravel deposits in deep buried valleys.
- Areas of permeable sand and gravel, very favorable for large ground-water yields but susceptible to infiltration of chlorides from the Tucarawas River. Spacing of wells and rates of pumping should be carefully controlled to avoid induction of chloride into the aquifer.

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

- Good ground-water areas. Permeable sand and gravel deposits not traversed by major streams. May supply sustained yields of several hundred gallons per minute. Suitable for industrial and municipal well field development.

AREAS IN WHICH YIELDS OF 25 TO 100 GALLONS PER MINUTE CAN BE DEVELOPED.

- Interbedded and interlensing sand, gravel, silt and clay. Farm and small industrial supplies available from wells ranging to 150 feet deep. Wells may yield 100 gallons, or more, per minute. Yields from underlying sandstones are described below.
- Ground water obtained from sandstones of the Pottsville group. Principal aquifers are the Massillon sandstone (upper) and Sharon conglomerate (below). Wells will produce sustained yields of as much as 50 gallons per minute. Up to 100 gallons per minute may be available for short periods of intermittent pumping. Sharon may be from 150 feet to 300 feet below land surface. With few exceptions, the bedrock is covered with less than 75 feet of glacial material.

AREAS IN WHICH YIELDS OF LESS THAN 30 GALLONS PER MINUTE CAN BE DEVELOPED.

- Valley fill containing sand and gravel deposits of limited thickness and extent. Wells encountering permeable deposits may yield from 10 to 30 gallons per minute. Those unconsolidated deposits generally range from 30 to 100 feet in thickness. May be more than 200 feet thick in the Tucarawas River valley south of Navarre.
- Discontinuous bodies of sand and gravel in thick glacial drift. Wells may yield from 5 to 20 gallons per minute. Wells that do not encounter sand and gravel must be drilled into the bedrock (see below) to obtain ground water.
- Ground water obtained from sandstones and sandy shales. Although larger yields have been reported, the maximum reliable yield is about 25 gallons per minute. Bedrock is covered with from 20 to 80 feet of unconsolidated deposits which may supply domestic yields in the glaciated portion of Stark County.

AREAS IN WHICH YIELDS OF 3 to 10 GALLONS PER MINUTE CAN BE DEVELOPED.

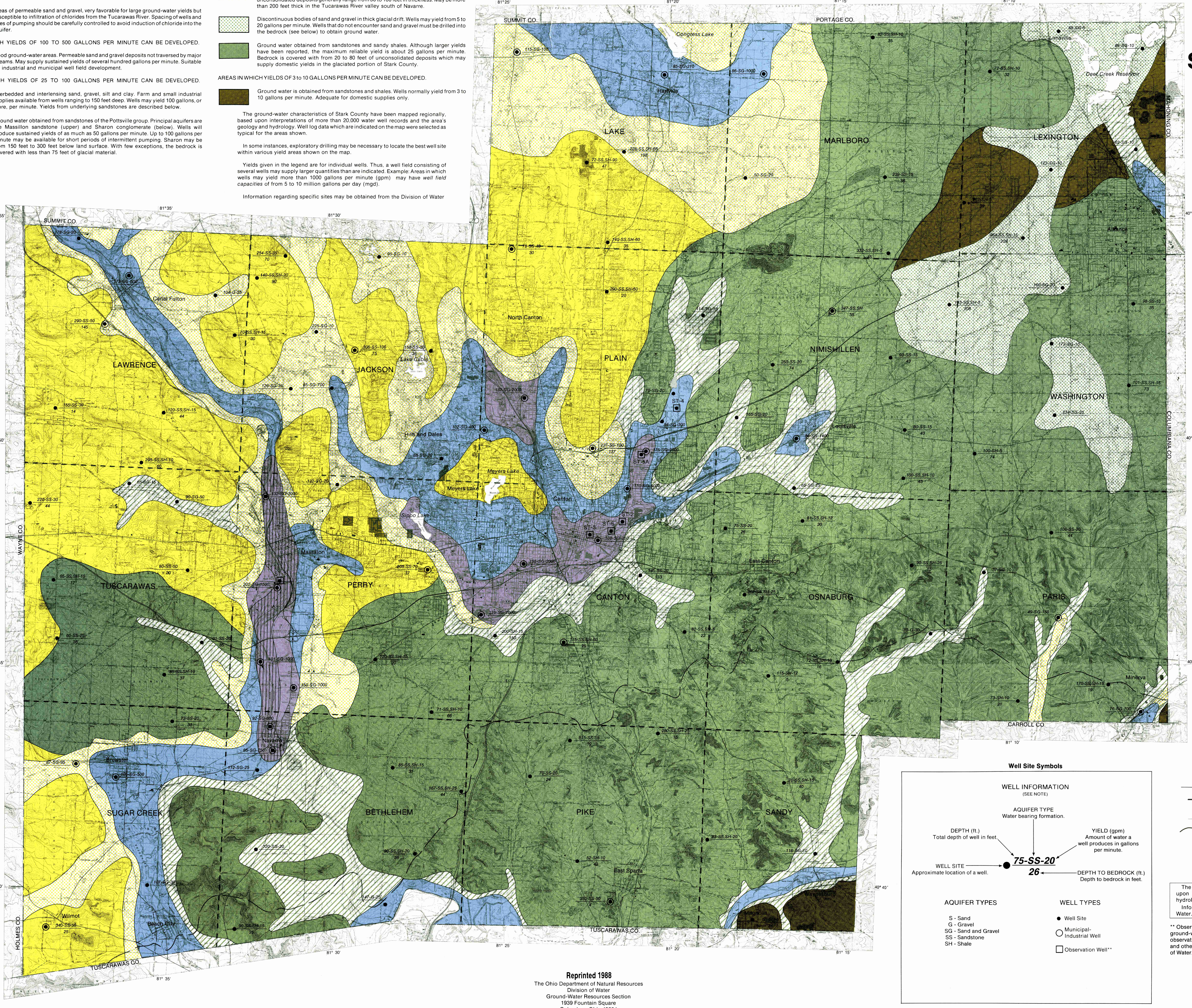
- Ground water is obtained from sandstones and shales. Wells normally yield from 3 to 10 gallons per minute. Adequate for domestic supplies only.

The ground-water characteristics of Stark County have been mapped regionally, based upon interpretations of more than 20,000 water well records and the area's geology and hydrology. Well log data which are indicated on the map were selected as typical for the areas shown.

In some instances, exploratory drilling may be necessary to locate the best well site within various yield areas shown on the map.

Yields given in the legend are for individual wells. Thus, a well field consisting of several wells may supply larger quantities than are indicated. Example: Areas in which wells may yield more than 1000 gallons per minute (gpm) may have *well field capacities* of from 5 to 10 million gallons per day (mgd).

Information regarding specific sites may be obtained from the Division of Water



Well Site Symbols

WELL INFORMATION (SEE NOTE)

- AQUIFER TYPE — Water bearing formation.
- DEPTH (ft.) — Total depth of well in feet.
- YIELD (gpm) — Amount of water a well produces in gallons per minute.
- WELL SITE — Approximate location of a well.
- DEPTH TO BEDROCK (ft.) — Depth to bedrock in feet.

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AQUIFER TYPES

- S - Sand
- G - Gravel
- SG - Sand and Gravel
- SS - Sandstone
- SH - Shale

WELL TYPES

- Well Site
- Municipal-Industrial Well
- Observation Well**

County Line
Township Line
Incorporated City Limit
Glacial Boundary

Miles 1 0 1 2
Kilometers 1 0 1 2

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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.

** 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.

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Naturally OHIO the heart of it all!

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