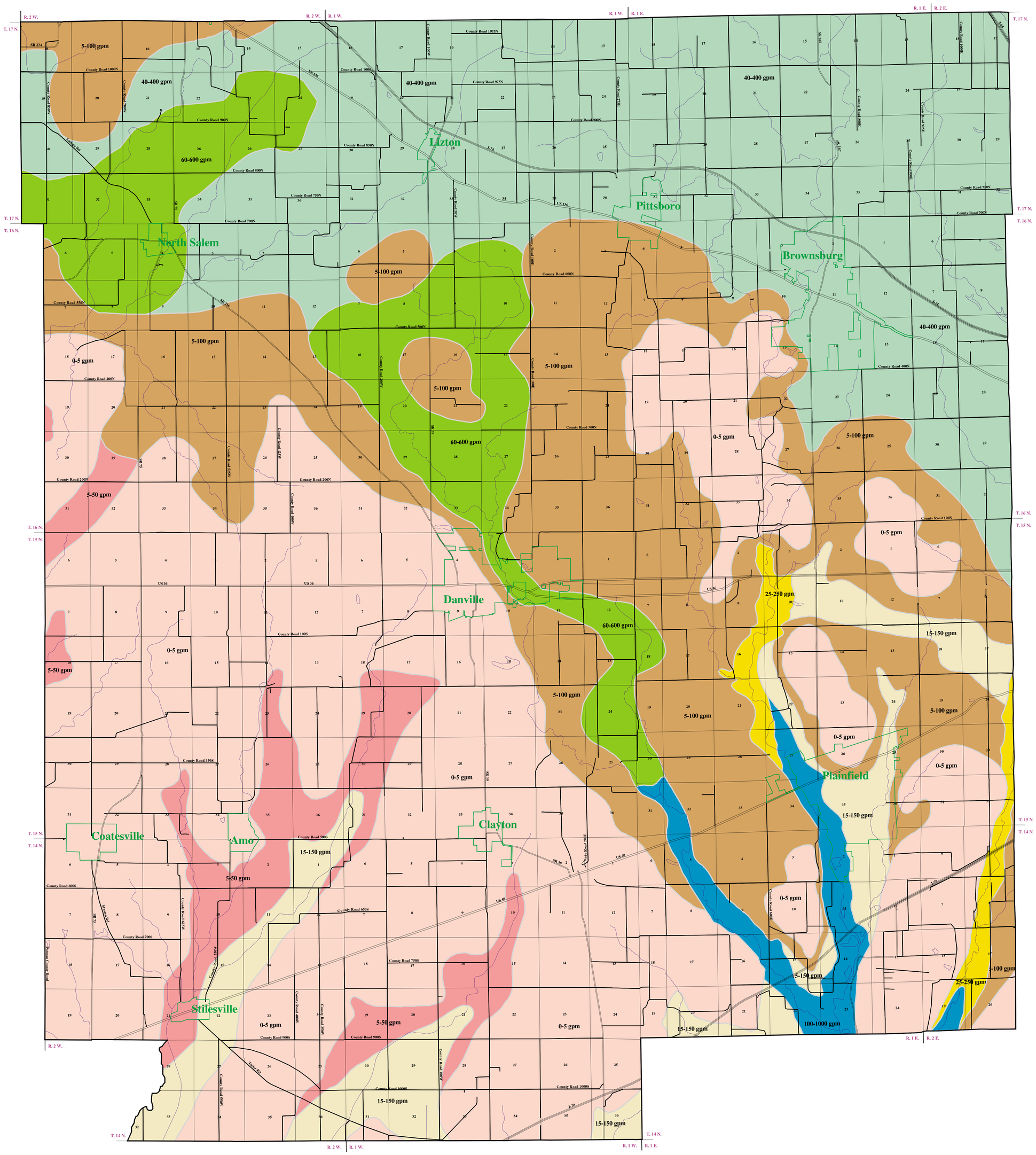
POTENTIAL YIELD OF UNCONSOLIDATED AQUIFERS IN HENDRICKS COUNTY, INDIANA



EXPLANATION

Tiger files (1999)

- Interstate Route
- U.S. & State Route
- County Road
- Streams
- Municipal Boundary

Potential Yield (gallons per minute)

0 -- 5

These areas are typified by upland topography in which less than 50 feet of glacial drift overlies bedrock highs. Sand and gravel deposits within the glacial drift (which is mostly till) are generally quite thin or nonexistent. Many dry holes have been reported. Larger-diameter bored wells are often used to provide additional storage within the well bore to accommodate peak usage needs.

5 -- 50

These areas contain sand and gravel deposits within smaller buried bedrock valleys (paleovalleys). Although the sand and gravel is generally less than 5 feet thick it is usually adequate for domestic wells. Also, included are some areas near the edges of larger paleovalleys.

5 -- 100

Nearly all of these areas are characterized by upland topography. Glacial drift, which is predominantly till, usually ranges from about 50 to 150 feet thick. With some exceptions the sand and gravel aquifers within the drift are adequate for domestic wells. In a few places the sand and gravel may be thick enough to supply smaller public, commercial, or irrigation needs.

15 -- 150

These areas contain somewhat thicker and more extensive sand and gravel aquifers within paleovalleys. These aquifers are nearly always adequate for domestic wells. In places, especially farther downstream, they have the potential to supply smaller public, commercial, or irrigation needs. About nine miles south of the Hendricks County line, in Putnam County, the town of Cloverdale has a well field in this paleovalley aquifer. Wells are about 78 feet deep and have been tested at about 350 gallons per minute (gpm).

25 -- 250

These areas in the valleys of White Lick Creek and East Fork White Lick Creek include several feet of outwash sand and gravel under water table conditions. However, the aquifer is relatively narrow and has not been well explored. Also, a deeper aquifer beneath a till layer may be a better source of water. Farther downstream, as the present valleys widen and the paleovalleys deepen, the aquifer potential is greater.

40 -- 400

This area is typified by gently sloping to nearly flat upland topography of the Tipton Till Plain physiographic province. In most of the area glacial deposits are over 200 feet thick. Several sand and gravel aquifers commonly exist at different depths in the same location. Domestic wells can be obtained virtually anywhere in the area. High-capacity wells yielding several hundred gpm can be drilled in much of the area. Examples include public supply wells for Brownsburg and irrigation wells for some golf courses.

60 -- 600

These areas include one of the deepest paleovalleys in the county. Sand and gravel aquifers are generally thick enough and extensive enough to support high-capacity wells yielding several hundred gallons per minute. Examples include the public supply wells for the city of Danville. Also, about one mile west of the Hendricks County line there are two irrigation wells completed in this paleovalley. These wells are 240 and 248 feet deep and were tested at 2000 and 1700 gpm, respectively. The town of North Salem has a well field tapping a shallower, less productive aquifer at depths of 76 to 96 feet.

100 -- 1000

These areas include the lower reaches of the White Lick Creek valleys in the county. These valleys contain a moderately thick sand and gravel outwash aquifer under water table conditions. These reaches also coincide with main branches of the White Lick paleovalley system. In places a clay layer separates a lower sand and gravel aquifer (associated with the paleovalleys) from the more recent, shallower outwash aquifer. High-capacity wells include several for the city of Plainfield and the Plainfield Correctional Facility.

SCALE 1:48,000

1 .5 0 1 MILE

1000 0 7000 FEET

1 .5 0 1 KILOMETER

N W E S

INDIANA DEPARTMENT OF NATURAL RESOURCES

This map of potential yield of unconsolidated aquifers portrays the range of probable maximum yields which can be expected from a properly constructed large-diameter well penetrating the full thickness of the aquifer. The map is an interpretation of specific data, such as water well records, and published maps and reports. Especially acknowledged is the unconsolidated aquifer system map from Water Resource Assessment 2002-6, Division of Water, 2002.

Originally mapped at a scale of 1:48,000.

Map generated by Glenn E. Grove
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