

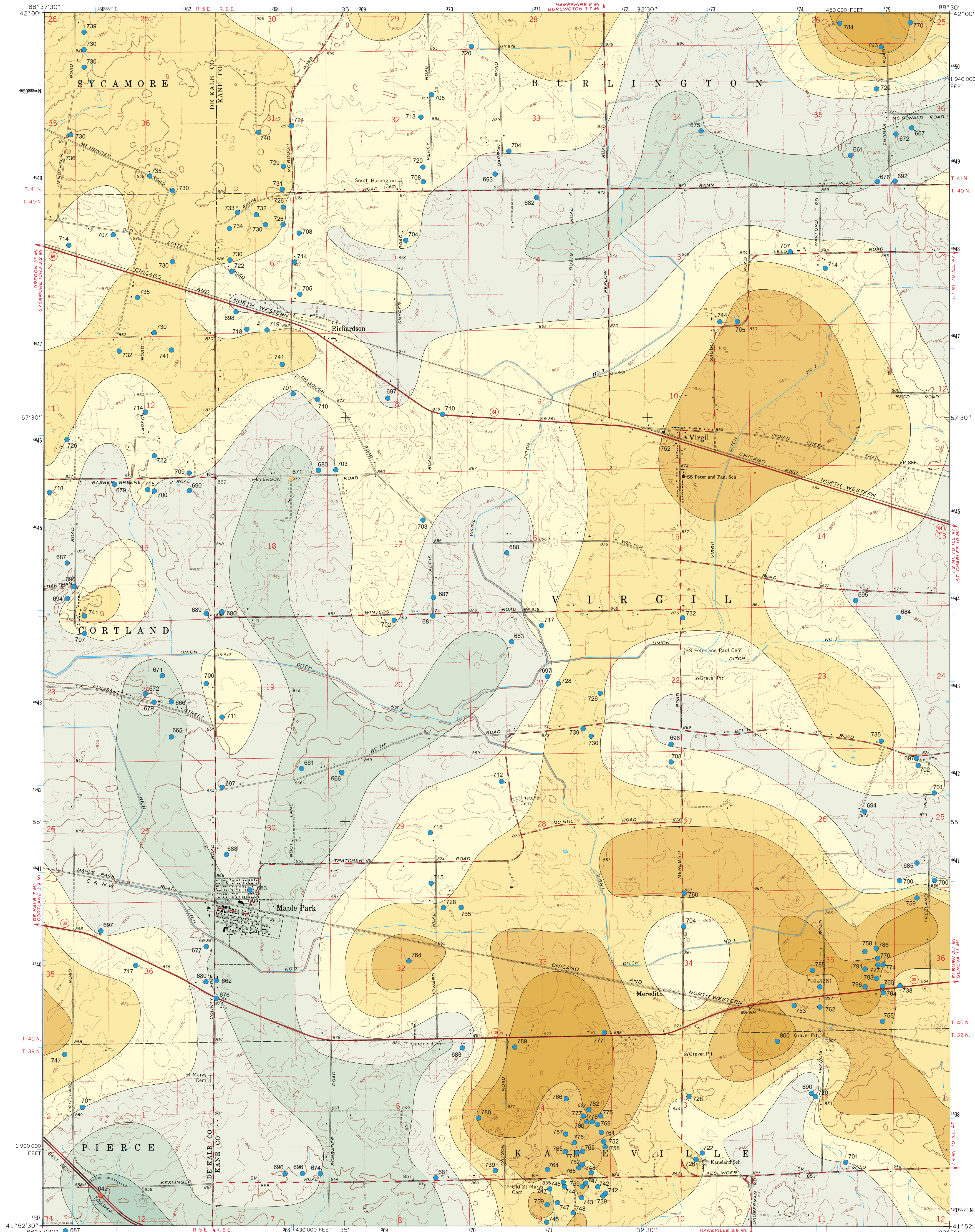
BEDROCK TOPOGRAPHY OF MAPLE PARK QUADRANGLE

KANE AND DE KALB COUNTIES, ILLINOIS

Department of Natural Resources
ILLINOIS STATE GEOLOGICAL SURVEY
William W. Shiels, Chief

Illinois Preliminary Geologic Map
IPGM Maple Park-BT

David A. Grimley and Thomas J. McTigue
2004



BEDROCK TOPOGRAPHY

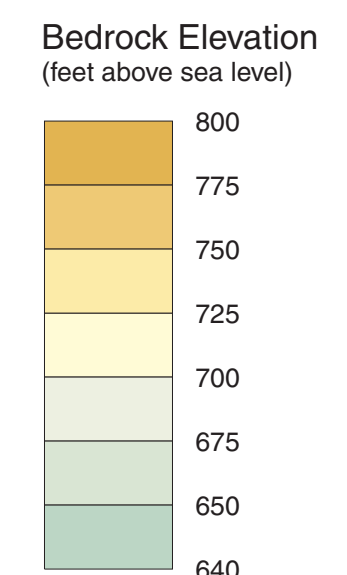
- The map shows the configuration of the bedrock surface as indicated by elevations above sea level. This surface marks the boundary between the unconsolidated glacial deposits (e.g., river sand and silt, glacial till, or lake sediment) and the underlying bedrock (typically shale, dolomite or limestone). The total relief of the bedrock surface in the quadrangle is about 160 feet; bedrock top elevations range from about 640 to 800 feet above sea level. The hills and valleys on the ancient bedrock surface were formed in part by river erosional processes during preglacial and interglacial times and in part by scouring from glacial ice. The glacial deposits that bury the bedrock surface in the Maple Park Quadrangle range from 70 to 270 feet thick and have been mapped and described in detail by Grimley (2004). Exposures of bedrock are not known to occur in this quadrangle.
- This map portrays similar trends in bedrock topography, but in more detail, than the regional studies of Curry and Seaber (1990) and Herzog et al. (1994). Due to more in-depth analysis and a larger data set for this study, the bedrock valleys and highlands are more apparent and mapped in greater detail than previously.

METHODOLOGY

- This bedrock topography map was produced from 309 data points (bedrock elevations at these points are labeled on the map). Of these data points, 305 are water wells, 3 are stratigraphic borings, and 1 is an engineering boring. All data are on file at the Illinois State Geological Survey Geological Records Unit. Some data, not shown on the map, was used from a one-mile buffer zone around the quadrangle. The highest quality data, with respect to descriptive and location accuracy, are the stratigraphic and engineering borings. The water wells comprise most of the data and range in quality from high to low. Only water wells with better quality descriptions or reasonable bedrock elevations were used for this map. Some lower quality water well records were not used for this map (and not shown) because the bedrock elevations were anomalous, probably due to difficulty in differentiating shale and clayey till (that contains numerous shale fragments) in water well cuttings. Bedrock elevations were initially contoured with Arcview 3.2 software (ESRI), using the spline method and tension option. Subsequently, the contours were slightly modified in a few areas to portray the data more realistically as a buried landscape.

REFERENCES

- Curry, B.B. and P.R. Seaber, 1990, Hydrogeology of Shallow Groundwater Resources, Kane County, Illinois, Illinois State Geological Survey Contract/ Grant Report 1990-1, 37 p.
- Grimley, D.A., 2004, Surficial geology of the Maple Park 7.5-minute Quadrangle, Kane and Du Page Counties, Illinois: Illinois State Geological Survey, Illinois Preliminary Geologic Map, IPGM Maple Park-SG, 1:24,000
- Herzog, B.L., B.J. Stiff, C.A. Chenoweth, K.L. Warner, J.B. Sieverling, and C. Avery, 1994, Buried bedrock surface of Illinois: U.S. Geological Survey and Illinois State Geological Survey, Illinois Map 5, 1:500,000.



Data Points

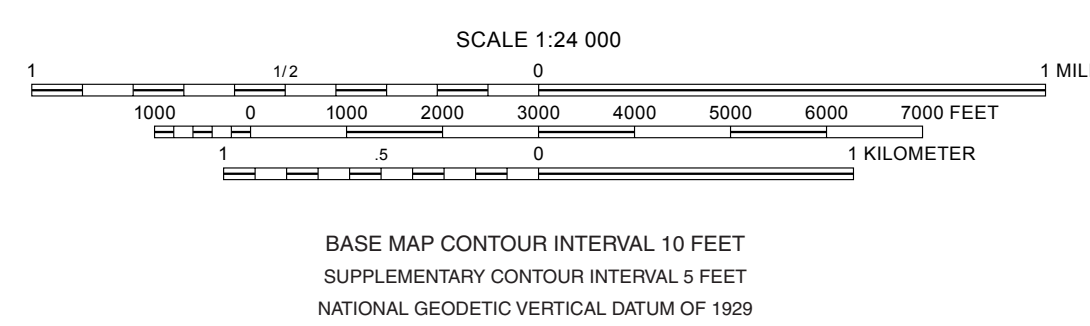
- Stratigraphic boring (ISGS)
- Water well boring
- Engineering boring

Note: Data point labels indicate the bedrock surface elevation (above sea level)

Base map compiled by Illinois State Geological Survey from data provided by the United States Geological Survey. Topography compiled from imagery dated 1965. Field checked 1968. Photorevised 1975.

North American Datum of 1983 (NAD 83)
Projection: Transverse Mercator
10,000-foot ticks: Illinois State Plane coordinate systems, east zone (Transverse Mercator)
1,000-meter grid: Universal Transverse Mercator grid, zone 16

Recommended citation:
Grimley, D.A. and T.J. McTigue, 2004, Bedrock Topography of Maple Park Quadrangle, Kane and DeKalb Counties, Illinois: Illinois State Geological Survey, Illinois Preliminary Geologic Map, IPGM Maple Park-BT, 1:24,000.



Released by the authority of the State of Illinois: 2004

Digital cartography by D. Grimley, Illinois State Geological Survey.

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This Illinois Preliminary Geologic Map (IPGM) is a lightly edited product, subject to less scientific and cartographic review than our Illinois Geological Quadrangle (IGQ) series. It will not necessarily correspond to the format of IGQ series maps, or to those of other IPGM series maps. Whether or when this map will be upgraded depends on the resources and priorities of the ISGS.

The Illinois State Geological Survey, the Illinois Department of Natural Resources, and the State of Illinois make no guarantee, expressed or implied, regarding the correctness of the interpretations presented in this document and accept no liability for the consequences of decisions made by others on the basis of the information presented here. The geologic interpretations are based on data that may vary with respect to accuracy of geographic location, the type and quantity of data available at each location, and the scientific/technical qualifications of the data sources. Maps or cross sections in this document are not meant to be enlarged.



1	2	3
4	5	6
7	8	

ADJOINING QUADRANGLES

- Genoa
- Hampshire
- Pingree Grove
- Sycamore
- Eburn
- Hinckley
- Big Rock
- Sugar Grove

2.5°
MAGNETIC NORTH
APPROXIMATE MEAN DECLINATION, 2004

ROAD CLASSIFICATION

Primary highway, hard surface ————
Secondary highway, hard surface ————
Unimproved road - - - - -

Light duty road, hard or improved surface ————
Unimproved road - - - - -

Interstate Route (I-55)
U.S. Route (U.S. 151)
State Route (SR 100)