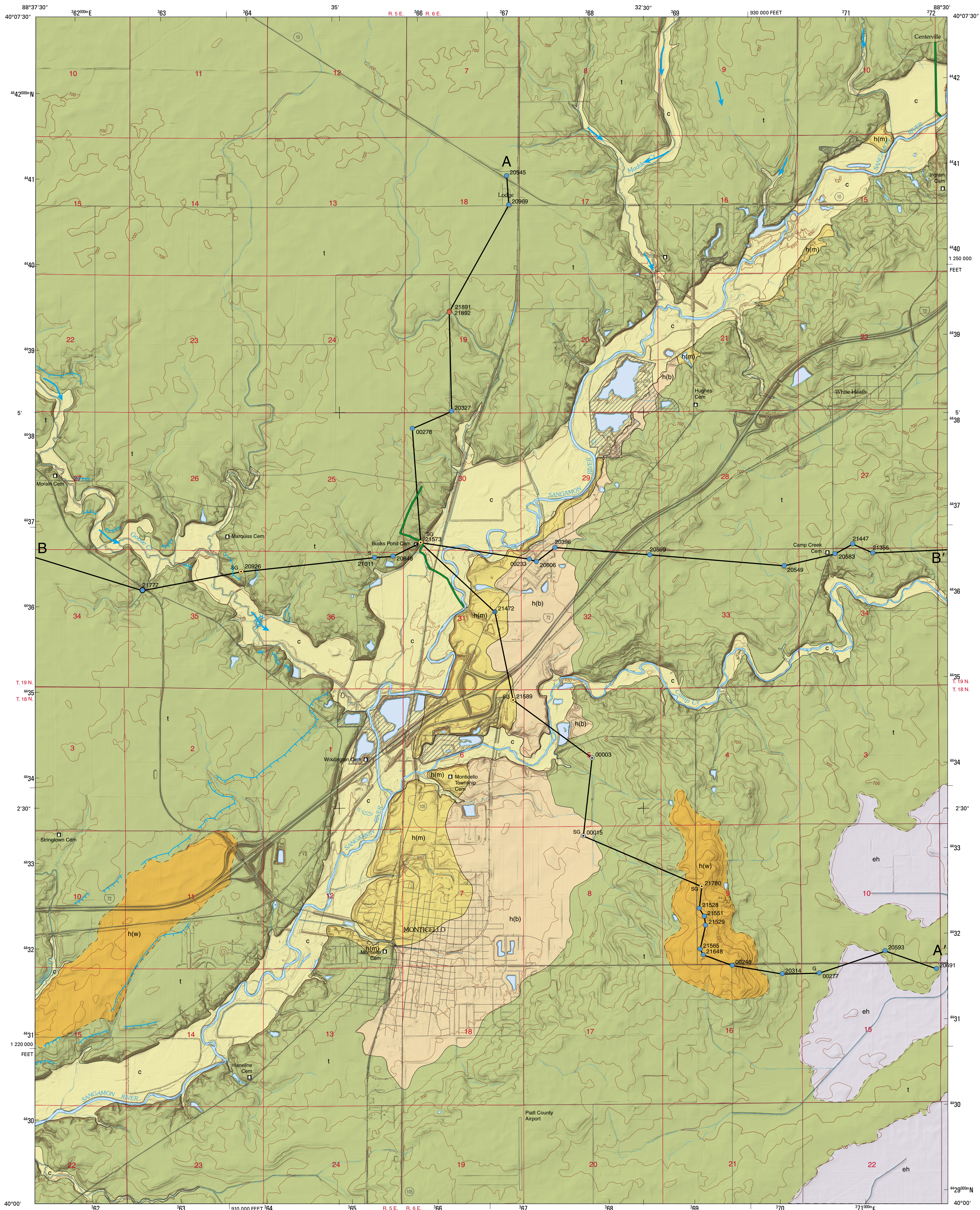


SURFICIAL GEOLOGY OF MONTICELLO QUADRANGLE  
PIATT COUNTY, ILLINOIS

Prairie Research Institute  
ILLINOIS STATE GEOLOGICAL SURVEY

Andrew J. Stumpf  
2018

STATEMAP Monticello-SG



QUATERNARY DEPOSITS

Description	Unit	Interpretation <sup>1,2</sup>
<b>HUDSON EPISODE</b> (~14,700 years before present (B.P.) to today) <sup>2</sup> <b>Sand, silt, clay, and gravel:</b> massive to stratified; locally oxidized; noncalcareous to locally calcareous; poorly sorted; contains beds of organic material; up to 18 ft thick	Cahokia Formation (undivided) c	<b>Alluvium (stream deposits)</b> mapped in floodplains along creeks and drainage ways and in fan-shaped deposits where streams emerge from the moraines onto lower gradient slopes
<b>HUDSON AND WISCONSIN EPISODES</b> (~22,000--~14,700 years B.P.) <sup>2,3</sup> <b>Silt and clay to sand and gravel:</b> interstratified; grayish brown to olive brown; weakly stratified to massive; noncalcareous to calcareous; up to 15 ft thick	Equality Formation -- Henry Formation complex eh	<b>Lacustrine or fluvial sediment</b> deposited in lowlands and depressions during proglacial and postglacial times; overlain by up to 5 feet of loess and/or resedimented loess
<b>LATE WISCONSIN EPISODE</b> (~24,000--~22,000 years B.P.) <sup>2,3</sup> <b>Fine sand to gravely coarse sand:</b> brown to yellowish brown; calcareous; moderately to well sorted; up to 25 ft thick	Mackinaw facies, Henry Formation h(m)	<b>Glaciofluvial sediment (outwash)</b> deposited by glacial meltwater in streams and rivers that flowed from ice margins
<b>Sand and gravel:</b> silty to gravely; dark yellowish brown to light olive brown; noncalcareous to weakly calcareous; moderately sorted; up to 25 ft thick	Batavia facies, Henry Formation h(b)	<b>Glaciofluvial sediment (alluvial fans)</b> deposited in ice-contact and proglacial environments on frontal side of Cerro Gordo Moraine; may include some debris-flow deposits; overlain by up to 5 feet of loess
<b>Sand and gravel:</b> loamy; brown to light olive brown; noncalcareous to calcareous; poorly to moderately sorted; up to 20 ft thick	Wasco facies, Henry Formation h(w)	<b>Glaciofluvial sediment (ice-contact deposits)</b> in small kames on the Cerro Gordo Moraine and esker-like features on west side of the Sangamon River; may include some supraglacial deposits; overlain by up to 5 feet of loess
<b>Diamiction:</b> loam; grayish brown to reddish gray; calcareous; very stiff; contains beds of sand, silt, and gravel; contains many clasts of metamorphic rocks in Cerro Gordo Moraine; up to 130 ft thick	Tiskilwa Formation (undivided) t	<b>Till and ice-marginal sediment</b> derived directly from glacial ice; in the upper part includes the Platt Member, which is recognized in Cerro Gordo Moraine by numerous clasts of metamorphic rocks; includes ice-disintegration deposits along east side of the Sangamon River

<sup>1</sup> In places, the surficial geologic materials have been excavated or buried. The areas impacted by human activities (disturbed ground) are delineated by the overlying striped pattern.  
<sup>2</sup> Generally, the Wisconsin Episode sediments mapped at the land surface are overlain by 3 to 5 feet of wind-deposited silt and fine sand (loess), which was deposited between 22,000 and 14,700 years B.P.  
<sup>3</sup> The time periods for the Wisconsin Episode and the Hudson Episode are reported as calibrated radiocarbon years and can be directly compared to calendar years before 1950 (Stuiver et al. 2015).

**Point Data Type**

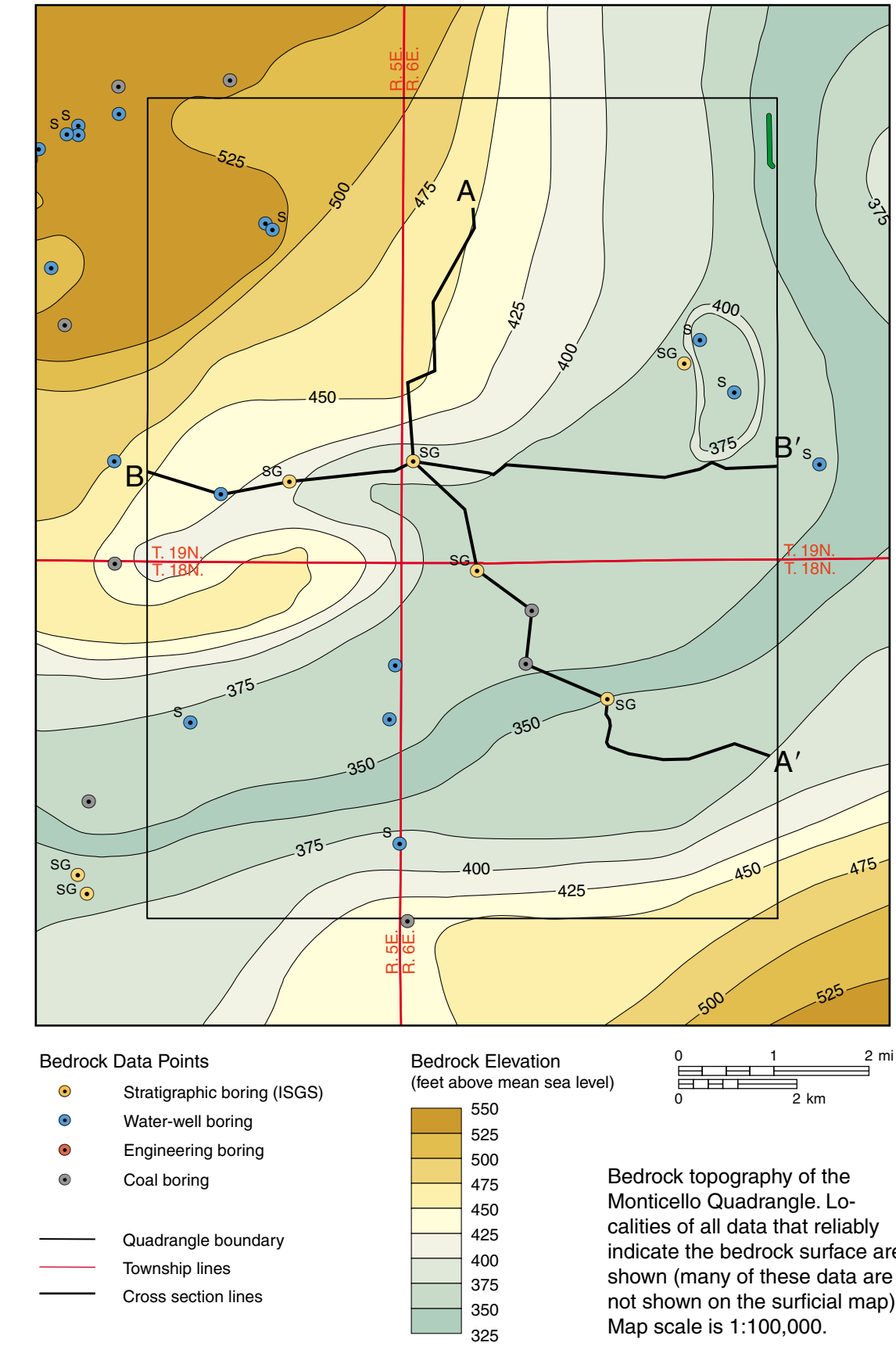
- Stratigraphic boring
- Water well boring
- Water well boring for irrigation
- Water municipal well
- Engineering boring
- Coal boring

Labels indicate samples (s) or geophysical logs (g). Boring labels indicate the county identification number. Dot indicates boring is to bedrock.

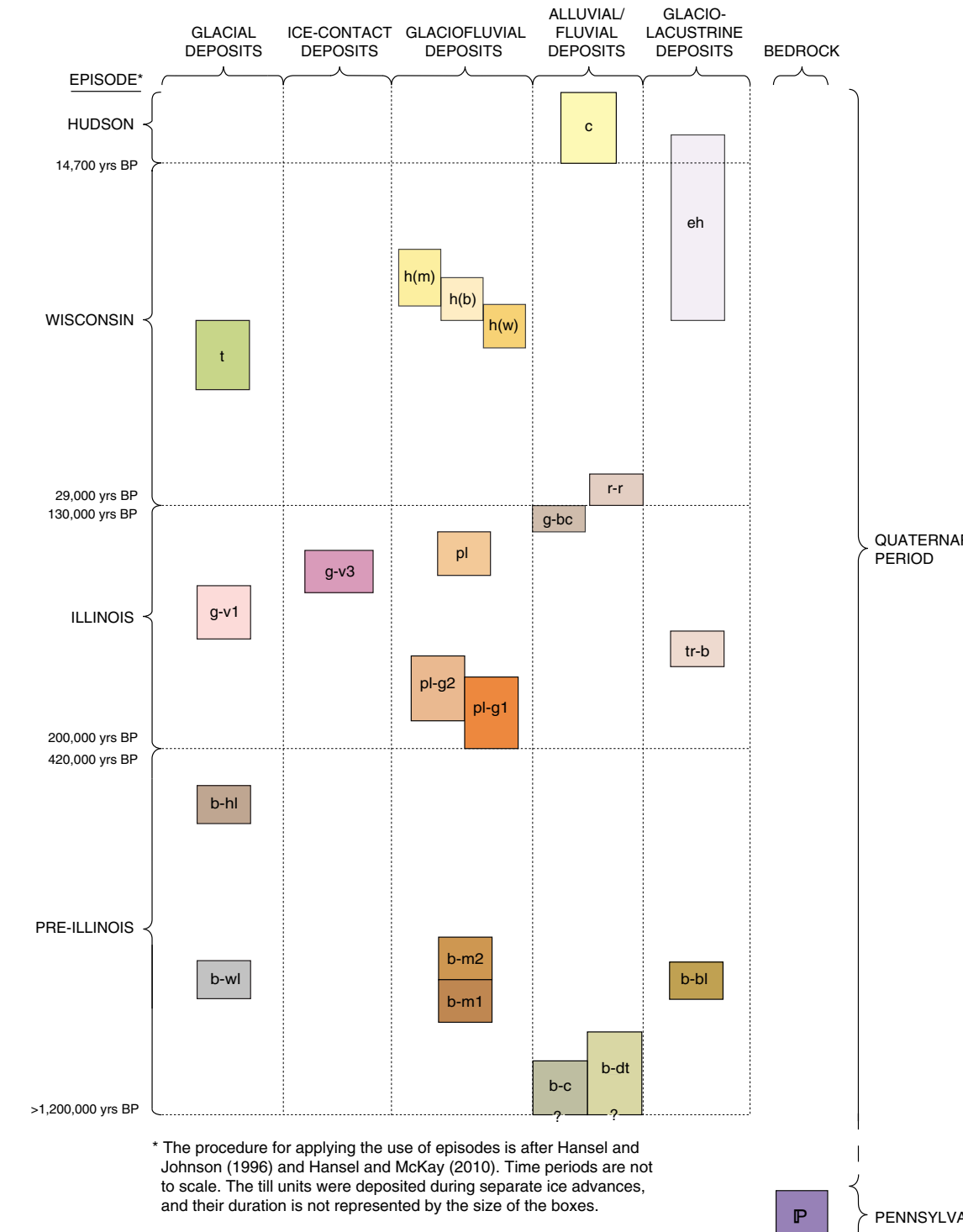
**Other Data**

- Contact
- Contact inferred
- Line of cross section
- Earth electrical resistivity survey
- Glaciofluvial terrace scarp
- Glacial meltwater flow
- Disturbed ground includes waste or other rubble, thickness < 10 feet

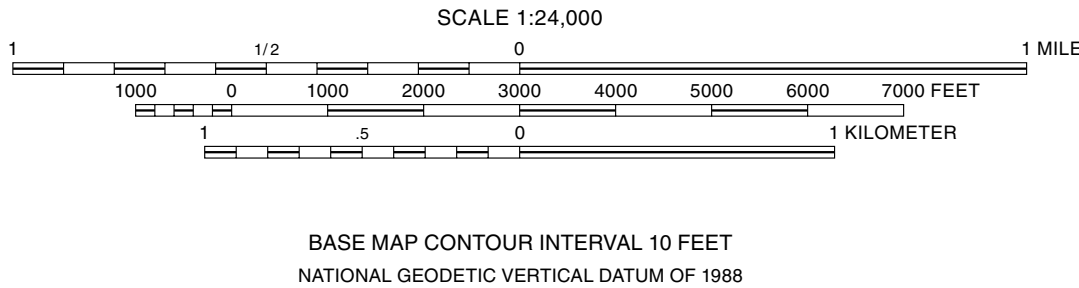
Boring labels indicate the county identification number. The county identification number is a portion of the 12-digit API number on file at the ISGS Geological Records Unit that references records in the ISGS Institutional Database. The geologic and geophysical logs are available from the ISGS websites ILWATER (<http://www.isgs.illinois.edu/ilwater/>) and ILOIL (<http://www.isgs.illinois.edu/illinois-oil-and-gas-resources-interactive-map/>).



CORRELATION OF MAPPING UNITS



Base map compiled by Illinois State Geological Survey from digital data (2015 US Topo) provided by the United States Geological Survey. Shaded relief and contours derived from 2012 LIDAR elevation data.  
North American Datum of 1983 (NAD 83)  
Projection: Transverse Mercator  
10,000-foot ticks: Illinois Coordinate System of 1983, east zone  
1,000-meter ticks: Universal Transverse Mercator grid system, zone 16  
**Recommended citation:**  
Stumpf, A.J., 2018, Surficial Geology of Monticello Quadrangle, Piatt County, Illinois: Illinois State Geological Survey, USGS-STATEMAP contract report, 2 sheets, 1:24,000

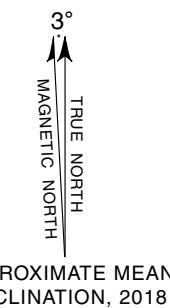


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1	2	3
4	5	6
7	8	9

ADJOINING QUADRANGLES  
1 Farmer City South  
2 Mansfield  
3 Mahomet  
4 Weston East  
5 Seymour  
6 Cerro Gordo  
7 Galesburg  
8 Havana



ROAD CLASSIFICATION
Interstate Route
State Route
U.S. Route
Local road

Geology based on field work by A. Stumpf, 2007--2010, and 2017--2018.  
Digital cartography by Deette M. Lund and Jennifer E. Carrell, Illinois State Geological Survey.  
This geologic map was funded in part by the USGS National Cooperative Geologic Mapping Program under StateMap award number G17AC00306, 2017. The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. Government.  
This map has not undergone the formal Illinois Geologic Quadrangle map review process. Whether or when this map will be formally reviewed and published depends on the resources and priorities of the ISGS.  
The Illinois State Geological Survey and the University 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 the accuracy of geographic location, the type and quantity of data available at each location, and the scientific and technical qualifications of the data sources. Maps or cross sections in this document are not meant to be enlarged.

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