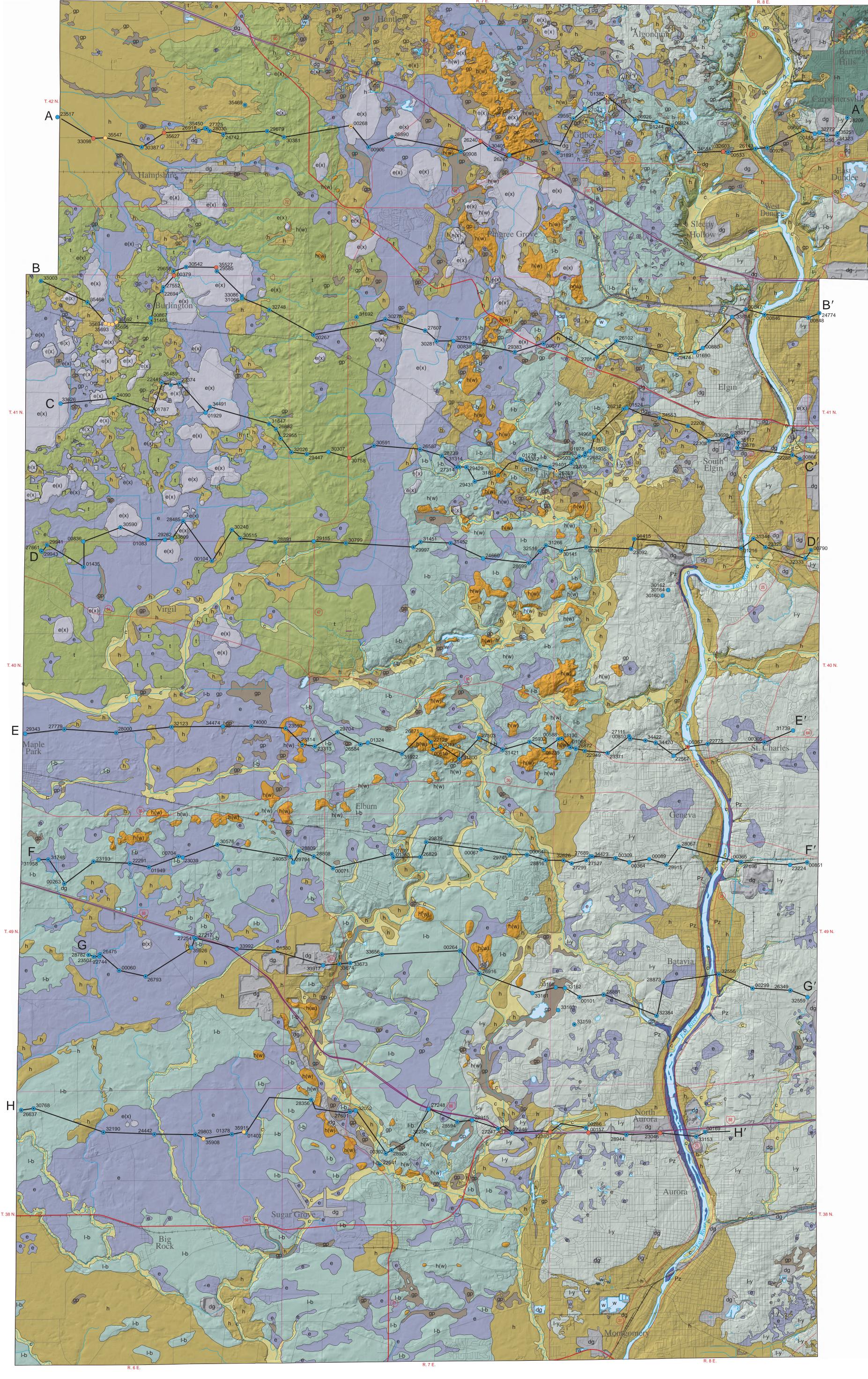
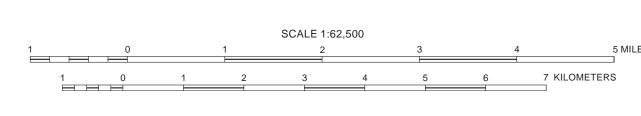
STATEMAP Kane-SG

B. Brandon Curry, David A. Grimley, and Alison R. Bruegger



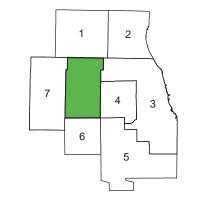


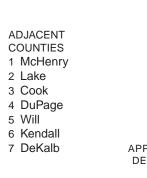


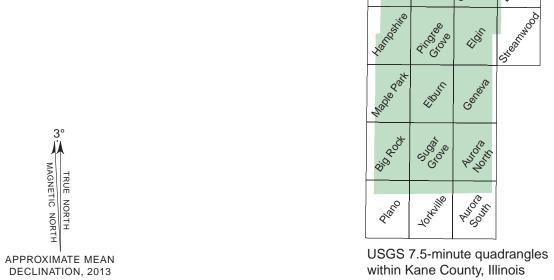
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QUATERNARY DEPOSITS

Description Interpretation HUDSON EPISODE (~14,700 years before present [B.P.] to today) Disturbed ground

Fill (disturbed earth material); primarily material reworked from underlying deposits

Peat and muck; black to brown;

interbedded with sand and silty clay

(gray) and marl (white to light gray);

Grayslake Peat gp

Disturbed land; embankments and mounds (gray); pits and quarries (open diagonal lines with underlying unit showing through) Decomposed wetland vegetation

less than 10 feet thick in most Sand and gravel, well-sorted sand, and lenses of peat, grading laterally to organic-rich silt and clay with fossil wood, moss, snails, ostracodes, and rootlets in most places; as much as 30 feet thick in

the Fox River valley; generally less than 10 feet thick in smaller upland Cahokia Formation

Alluvium in modern floodplains; overbank point bar and channel

and sediment in depressions and

on slopes associated with

discharge of groundwater

deposits

HUDSON EPISODE (~14,700 B.P. to today) and

WISCONSIN EPISODE: Michigan Subepisode (~29,000–14,700 years B.P.) Silt, clay, and fine sand; gray to brown; layered to massive; with fossil wood fragments, moss, gastropod shells, ostracodes, leaves, and rootlets in many places; surficial deposits are generally less

than 20 feet thick

Equality Formation

Lake deposits in postglacial kettles, and proglacial slackwater lakes in valleys tributary to the Fox

Succession of sand and gravel (lower unit, 0 to 15 feet thick), laminated, fossiliferous silt (middle unit, 3 to 40 feet thick), and weathered sand and gravel or sandy diamicton (upper unit, 0 to 15 feet thick); as much as about 50 feet total thickness

Ice-walled lake deposits forming high level terraces; formed of sorted sediment of the Mason Group, including sand and gravel of the Henry Formation and very fine sand, silt, and clay of the Equality Formation

Kamic (ice-contact) deposits;

sediment during melting of ice

Till and debris flow deposits

associated with the Woodstock

Till, debris flow deposits, and lake sediment associated with the

St. Charles and Minooka Moraines

Proglacial outwash and deltaic

Yorkville Member

Proglacial outwash and

the Batestown Member

slackwater lake sediment

deposited in ice contact and in

Till and debris flow deposits

Proglacial outwash deposited in

alluvial fans and in deltas; underlies deposits of the Tiskilwa Formation

alluvial fans; underlies deposits of

deposits; underlies deposits of the

complex structure due to collapse of

WISCONSIN EPISODE: Michigan Subepisode (~29,000–14,700 years B.P.)

lenses of silt and clay, or diamicton; yellowish brown, brown to gray; generally stratified Sand and gravel (silty to clean), and sand with some beds of silt,

and loam diamicton; stratified to

Sand and gravel, or sand; with

Henry Formation (Wasco facies) h(w)

Haeger Member,

Lemont Formation

Yorkville Member,

Lemont Formation

l-y

Unnamed tongue,

Henry Formation

(cross sections only)

h-lb

Ashmore Tongue,

Henry Formation

(cross sections only)

Henry Formation Proglacial outwash forming terraces along major rivers and streams; outwash deposited in deltas and alluvial fans in

laminated; contorted and faulted bedding; yellowish brown to grayish brown; as much as 160 feet thick **Diamicton**; sandy loam to loam; friable; dolomite-rich; with lenses and beds of sand and gravel; less

than 20 feet thick in most places Diamicton; silty clay, silty clay loam, and clay; gray, oxidizing to yellowish brown; includes layers of

sand and gravel, silt, and silty clay; as much as 100 feet thick Sand and gravel with interbeds of silt and clay; gray; stratified to

Diamicton; sandy loam to loam

and stringers of silt and fine sand;

to grayish brown, oxidizing to

as much as 65 feet thick

Unnamed tongue, Henry Formation laminated; as much as 65 feet thick (cross sections only)

h-ly Batestown Member, with abundant cobbles; friable; gray yellowish brown to brown; includes common layers of sand and gravel,

Till and debris flow deposits, associated with the Gilberts Drift in Lemont Formation western half of quadrangle l-b

Sand and gravel; stratified; grayish brown to gray, oxidizing yellowish brown; as much as 70 feet thick

Diamicton; clay loam to loam Tiskilwa Formation matrix with lenses of sand and gravel, or sand; reddish brown; as

much as about 275 feet thick Sand and gravel, and sand with thin beds of diamicton and silt; brown; stratified; as much as 80 feet

h-a Silt and clay; gray to pinkish brown; laminated; with fossils of ostracodes in places; as much as

Peddicord Tongue, **Equality Formation** (cross sections only) е-р

Proglacial lake deposits; underlies deposits of the Ashmore Tongue and Tiskilwa Formation

WISCONSIN EPISODE: Athens Subepisode (~55,000–29,000 years B.P.) Accretionary paleosol; A-horizon Robein Member,

Silt and clay; organic-rich or peaty, black to brown; leached of carbonate minerals; contains wood fragments; less than 10 feet thick in most places

20 feet thick

(cross sections only) r-r

Roxana Silt

deposits of the Tiskilwa Formation, Peddicord Tongue, and Ashmore Tongue

of Farmdale Geosol; deposits

accreted in low-lying areas;

patchy distribution; underlies

ILLINOIS EPISODE (~200,000–130,000 years B.P.)

Diamicton and sorted sediment, primarily sand and gravel; the diamicton is bouldery in places, with abundant lenses, layers, and channel fills of sand and gravel; the diamicton matrix is sandy loam to loam and reddish brown, pinkish brown, or brown. The diamicton is as much as 135 feet thick, and the sand and gravel, 160 feet thick

Glasford Formation (cross sections only)

Till and debris flow deposits (diamicton) and outwash (sand and gravel)

PRE-QUATERNARY DEPOSITS

Dolomite, shale

Bedrock

Dolomitized carbonate bank deposits and subtidal to intertidal clastic deposits

Data Type

Stratigraphic boring

Water well boring Engineering boring

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

Contact A - A' Line of cross section

Note: The county number is a portion of the 12-digit API number on file at the ISGS Geological Records Unit. Most well and boring records are available online from the ISGS Web site.

Base map compiled by Illinois State Geological Survey from digital data (2010 TIGER/Line Shapefiles) provided by the United States Census Bureau. Hillshade from 2008 LiDAR elevation data. Transverse Mercator Projection. North American Datum of 1983.

Geology based on field work and data compilation by B. Brandon Curry, David A. Grimley, and Alison R.

Bruegger 1985–2013. Digital cartography by Jennifer E. Carrell, Coy E. Potts, Illinois State Geological Survey.

This research was supported in part by the U.S. Geological Survey National Cooperative Geologic Mapping Program (STATEMAP) under USGS award number G12AC20408. 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 County Geologic Map review process. Whether or when this map will be formally reviewed and published depends on the resources and priorities of the ISGS.

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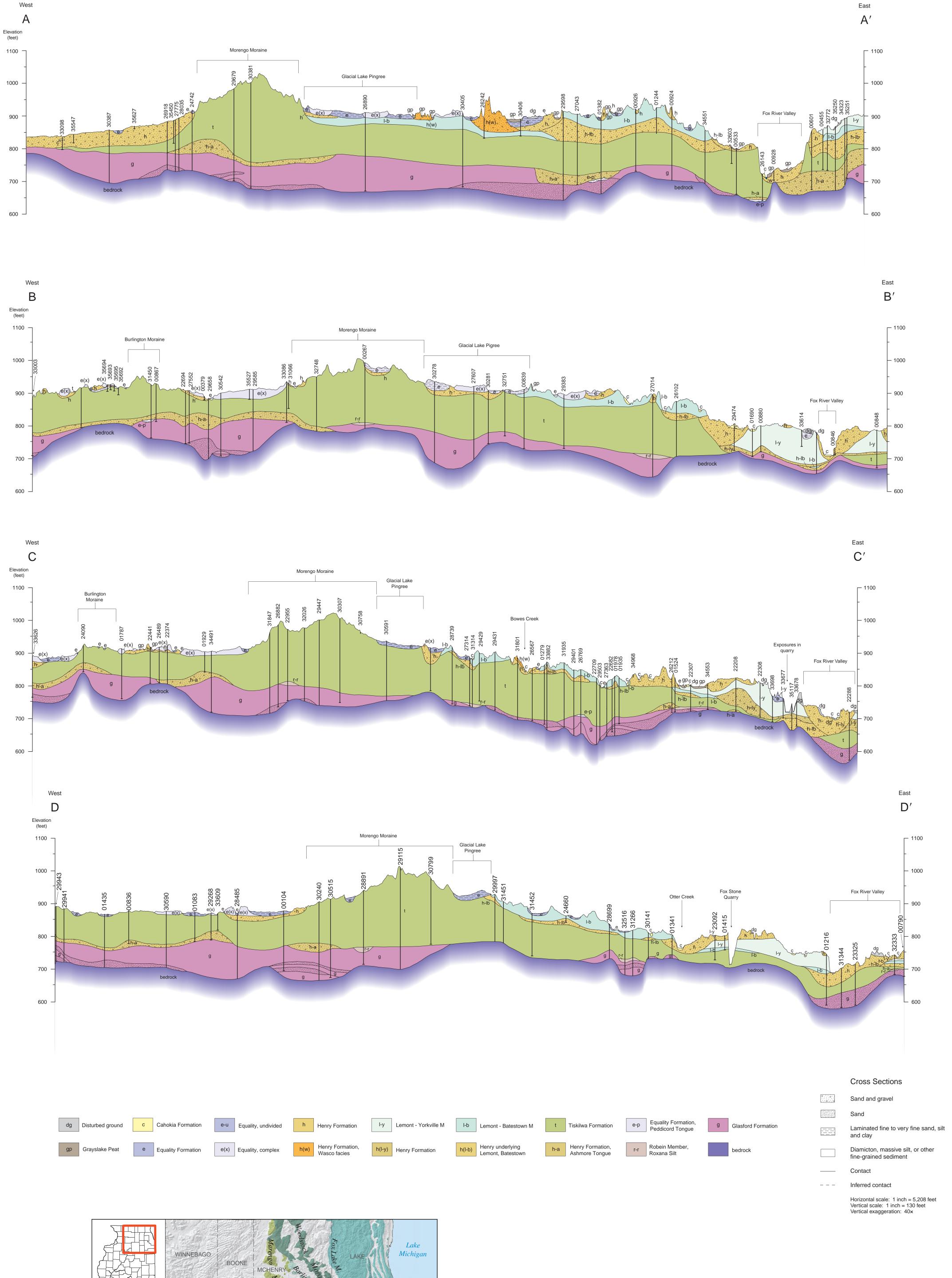
This map provides a general view of sand distribution. It does not replace the need for detailed investi-

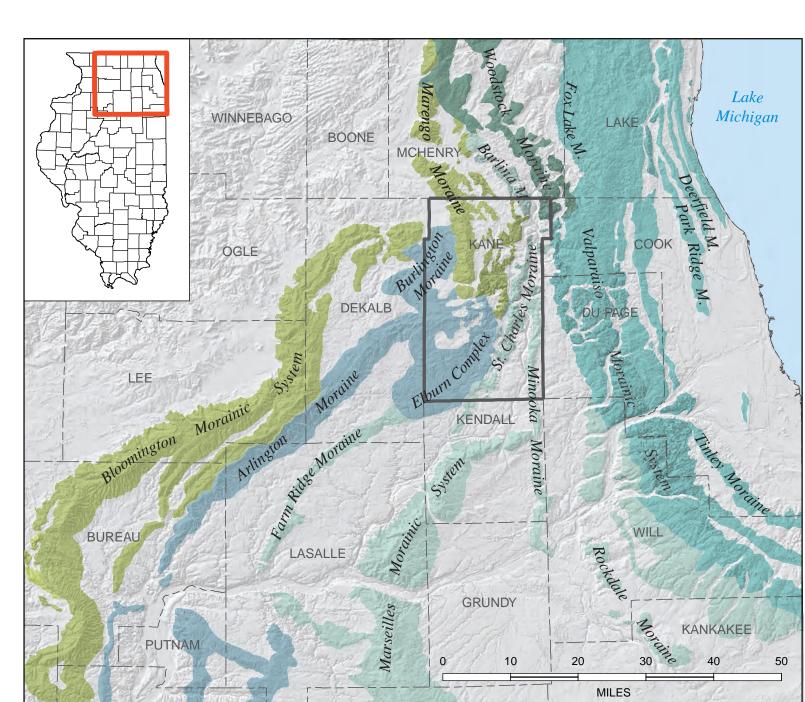
gations of specific sites. Recommended citation: Curry, B.B., D.A. Grimley, and A.R. Bruegger, 2013, Surficial Geology of Kane County, Illinois: Illinois

State Geological Survey, USGS-STATEMAP contract report, 3 sheets, 1:62,500.

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Location of Kane County (outlined in black) in the context of glacial moraines in northeastern Illinois

