

- DESCRIPTION OF MAP UNITS**
- Qal Alluvium, modern (Holocene)**
Silty clay and sandy silt with minor sand and sparse gravel; thickness 10 to 30 feet (3 to 10 m); found along banks of Ohio River and in floodplains along streams tributary to the Ohio River; deposited by modern historic stream processes; deposit is inset into adjacent map units; contact with adjacent units varies from sharp to poorly defined; mapped on the basis of topographic expression.
 - Qao Alluvium, natural levee deposits (Holocene)**
Sand and silt; deposited in levee ridges or overwash deposits on floodplains of major rivers (Qalp) and on the Ohio River; low overwash terraces (Qat1); grades into adjacent floodplain deposits; typically sandier than adjacent floodplain deposits.
 - Qas Alluvium, active modern sloughs (Holocene)**
Clay-rich, black and gray clay; silty clay, and clay; found within low lying areas on floodplain (Qalp) and low overwash terrace (Qat1); serve as poorly drained pathways to channel water off of the floodplain; areas that retain water year-round form bogs and cypress swamps.
 - Qatf Alluvial fans (Holocene)**
Silt, sand, and gravel; thickness uncertain; form fan-shaped alluvial-colluvial aprons at mouths of small valleys deposited by floods and debris flows from small tributary valleys developed in loess-mantled uplands; extent of fans mapped by topographic expression.
 - Qalp Alluvium, Ohio River floodplain (Holocene)**
Sand, silt, fine gravel, and clay; surface mantled by silty clay and sandy silt; surface forms the lowest well-developed terrace along the Ohio River; 30 to 45 feet (10 to 15 m) thick; overlies sand and gravel deposits of older overwash deposits; contact is sharp, drawn at scarp of next higher terrace; estimated to range in age up to 6,500 years.
 - Qalpg Alluvium, Green River floodplain (Holocene)**
Silt, sand, fine gravel, and clay; surface mantled by silty clay and sandy silt; surface forms the lowest well-developed terrace along the Green River; 30 to 45 feet (10 to 15 m) thick; overlies sand and gravel deposits of older overwash deposits; contact is sharp, drawn at scarp of next higher terrace; estimated to range in age up to 6,500 years.
 - Qatfo Alluvium, Ohio River floodplain terrace (Holocene)**
Sand, silt, fine gravel, and clay; surface mantled by silty clay and sandy silt; surface forms a distinct low relief terrace along the lowland margin of the Ohio River floodplain (Qalp); 30 to 45 feet (10 to 15 m) thick; overlies sand and gravel deposits of older overwash deposits; contact is sharp, drawn at scarp of next higher terrace. Estimated to range in age up to 6,500 years.
 - Qatfg Alluvium, Green River floodplain terrace (Holocene)**
Silt, sand, fine gravel, and clay; surface mantled by silty clay and sandy silt; surface forms a distinct low relief terrace along the lowland margin of the Green River floodplain (Qalpg); 30 to 45 feet (10 to 15 m) thick; overlies sand and gravel deposits of older overwash deposits; contact is sharp, drawn at scarp of next higher terrace. Estimated to range in age up to 6,500 years.
 - Qatlg Alluvium, low Green River terrace (Holocene)**
Poorly sorted silt, sand, and clay deposited by the Green River; lithologically similar to Green River floodplain (Qalp); distinguished by topographic expression from lower floodplain (Qalp), but found below Ohio River low overwash terrace (Qat1).
 - Qatlo Outwash, Ohio River scrollwork terrace (Pleistocene - Holocene)**
Fine to coarse sand and gravel, with local lenses of silt and clay; gravel includes chert, quartzite, sandstone, siltstone, limestone, and metamorphic rocks; limestone, and coal; lithologically similar to adjacent terrace; surface mantled with alluvial silty sand and sandy silt; 30 to 45 feet (10 to 15 m) thick; surface forms well-developed, well-sorted topography on Ohio River low terrace; deposited in glacial outwash reworked during postglacial adjustment of the Ohio River; overlies older overwash deposits (Qat1); contact is approximate, inferred from surface topography.
 - Qatli Outwash, Green River scrollwork terrace (Pleistocene - Holocene)**
Fine to coarse sand and gravel, with local lenses of silt and clay; gravel includes chert, quartzite, sandstone, siltstone, limestone, and coal; lithologically similar to adjacent terrace; surface mantled with alluvial silty sand and sandy silt; 30 to 45 feet (10 to 15 m) thick; surface forms well-developed, well-sorted topography on Green River low terrace; deposited as point bar deposits of glacial outwash reworked by meandering postglacial Green River; overlies older overwash deposits (Qat1); contact is approximate, inferred from surface topography.
 - Qat1 Outwash, low terrace (Pleistocene - Holocene)**
Fine to coarse sand and gravel, with local lenses of silt and clay; gravel includes chert, quartzite, sandstone, siltstone, limestone, and coal; lithologically similar to adjacent terrace; surface mantled with alluvial silty sand and sandy silt; 30 to 45 feet (10 to 15 m) thick; surface forms well-developed, well-sorted topography on Ohio River low terrace; deposited in glacial outwash reworked by post-glacial Ohio River; overlies older overwash deposits (Qat1); contact is sharp, drawn at scarp of next higher terrace or upland.
 - Qel Loess (Pleistocene-Holocene) (thicker than ~3 to 5 feet)**
Silt, clayey silt, and fine sand deposited by wind; typically massive; unit thickest up to 40 feet near the Ohio River; tapers gradually to the south; mantle bedrock upland; not mapped where locally found on uplands, covered by loess and poorly exposed; comparable to the Loess Cover of Boy (1962).
 - Ql Lacustrine terraces (Pleistocene)**
Clayey silt and silty clay; 30 to 45 feet (10 to 15 m) thick; thicker in tributary valleys; overlying complex deposits of sand, silt, clay and minor gravel locally mantled by loess (Qel); not mapped; form prominent low-relief terrace in tributary valleys and sheltered portions of Ohio River valley; unit deposited in lacustrine or lacustrine environments associated with alluviation of the Ohio River valley by glacial outwash and resulting impoundment of tributary valleys; underlying material is of apparent mixed fluvial and fluvio-lacustrine origin; contact with fluvial units is sharp, and drawn on scarps separating adjacent terraces; contact with loess and upland units (Qel, Qo) is gradational and approximate, inferred by surface topography; estimated to range in age from 23,000 to 18,000 years old.
 - Qlm Marginal lacustrine deposits (Pleistocene)**
Clayey silt, silt, and fine sand; thickness uncertain; surface forms moderate slope and bench-like upland areas bedded lacustrine deposits (Ql); represents complex transition between lacustrine deposits and loess mantling upland; deposits include loess, loess-derived deposits, colluvium, lacustrine silt and clay, and lacustrine siltstone deposits; contact gradational and approximate, mapped on the basis of topographic expression.
 - Qlg Upland gravel (Pleistocene-Pleistocene)**
Gravel and medium to coarse sand; pebbles include brown, patina short, quartz, and silicified fossils; locally cemented by iron oxide; unit found on uplands, covered by loess and poorly exposed; comparable to the Loess Cover of Boy (1962).
 - Pz Bedrock (Paleozoic)**
Consolidated shale, sandstone, coal, and overlying poorly sorted regolith, comprising the core of the uplands in the study area; includes areas of loess thinner than 3 ft (1 m).
 - af1 Artificial fill, engineered fill (Modern)**
Unconsolidated material used as fill for the construction of roads, railroads, buildings, and floodwalls.
 - af2 Artificial fill, mine spoil (Modern)**
Disturbed bedrock and regolith produced from mining operations.

- EXPLANATION**
- Contact
 - - - Approximate contact
 - Terrace scarp, north point downhill
 - Federal highways
 - State roads
 - Parkway
 - County roads
 - Other roads
 - Private roads
 - Railroads
 - Surface observations
 - ▲ Landform
 - ▲ Subsurface data
 - This study
 - Database
 - Economic points
 - ⊗ Pit
 - ⊗ Shaft

ACKNOWLEDGMENTS

This map was generated using new field mapping and compilation of unpublished and previously published data and was field mapped in part by the U.S. Geological Survey National Cooperative Mapping Program under the STATEMAP Program authorized by the National Geographic Mapping Act of 1990. Contact No. 01HQAG007, and by the Kentucky Geological Survey.

Field mapping was completed by Michael L. Murphy and Mark F. Thompson from April 2005 to December 2005, with assistance from W. Andrews, R. Counts, and S. Martin. KGS/D. Getting R. Tom (USDA/NRCS), Lindstrom (SRCS), and D. Murphy (FCPS).

Subsurface information was compiled from data on file at the Kentucky Geological Survey as well as data contributed by the Kentucky Transportation Cabinet and the U.S. Geological Survey.

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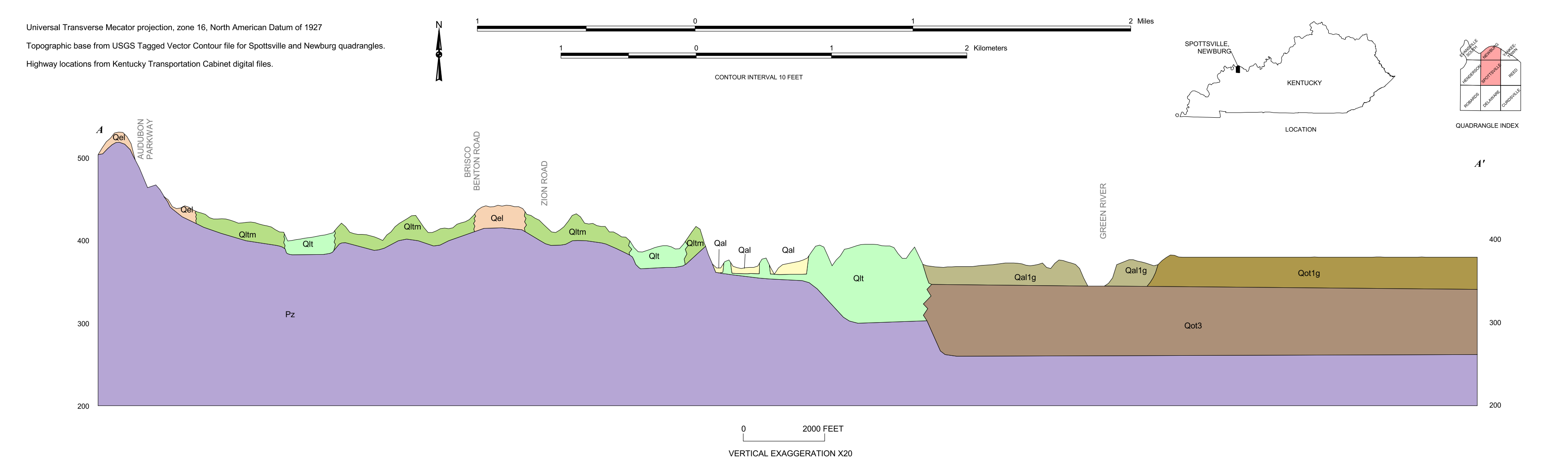
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QUATERNARY GEOLOGIC MAP OF THE SPOTTSVILLE QUADRANGLE AND PART OF THE NEWBURG QUADRANGLE, HENDERSON AND DAVIESS COUNTIES, WESTERN KENTUCKY
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2006