

DESCRIPTION OF MAP UNITS

af2 — artificial fill (modern)—mine spoil overlying reclaimed strip mines.

af3 — artificial fill (modern)—fill material dredged from Panther Creek and the surrounding floodplain, used to create artificial levees.

Qal — Alluvium (Holocene)—Silty clay, clayey silt, and silt containing minor fine sand and gravel. Found along Panther Creek and minor tributaries. Qal is mainly fine and inset into adjacent map units; contact with adjacent units varies from sharp to poorly defined.

Qel — Loess (Pleistocene)—Buff (2.5Y 7/3) to brownish (2.5Y 6/4) windblown silt, clayey silt, and fine sand. Qel is up to 38' (11.1 m) thick near the Ohio River and thins to the south. Commonly massive and unsorted, locally has subtle variations, texture and oxidation indicate concentric bedding draped over pre-existing landforms; top meter indurated by fine and fauna and locally have lamellae. Recent unpublished radiocarbon ages of snails and thermoluminescence dates of silt suggest deposition of Qel occurred between 22,200 to less than 14,000 yep.

Qes — Dune sand (Pleistocene)—Very fine to fine windblown sand derived from outwash plains of the Ohio River and/or Green River. Deposited in long, narrow, linear ridges and locally contains lenses of clayey silt and silt; marled with up to 6 ft (2 m) of loess; thickness uncertain.

Qap — Green River Paleochannel (Pleistocene)—Silty sand, clayey silt and silty clay with minor chert gravel. Fits paleovalley inset into and overlying deposits of adjacent high outwash terrace and lacustrine terraces; contact is sharp. Driven at grade of adjacent high outwash or lacustrine terrace; includes Beds at Hubert Court of Ray (1965); wood from about 40 feet (12 m) deep has been radiocarbon dated to 23,150 ± 500 yep (Rubin and Sues, 1956, sample W-200).

Qit — Lacustrine terrace (Pleistocene)—Brownish silty clay to clayey silt (10YR 4/4) ranging from 25 to 45 feet thick (8 to 14 m); retromarginal zones with gray (10Y 7/6) and reddish to maroon (7.5 R 4/8), laminated below zones of bioturbation and pedogenesis. Unit deposited in lacustrine and slackwater environments that formed when the Ohio River aggraded and locally impounded its tributaries. Fossils from a mammoth and a giant sloth have been discovered in Qit deposits in this region. Qit is marled by loess and underlain by a complex unit of apparent mixed fluvial and fluvio-lacustrine origin. Recent unpublished radiocarbon dates of 22,430 ± 50 and 22,060 ± 150 radiocarbon yep are consistent with previous dates of 18,520 ± 500 and 19,940 ± 300 (Rubin and Alexander, 1965, samples W-620 and W-645). Contact between Qit and Qim is poorly defined or very subtle and is primarily based on slope breaks along the margins of Qit and Qel.

Qim — Lacustrine margin (Pleistocene)—Brown (10YR 4/4) clayey silt, silt, and fine sand found adjacent to upland areas; unit is a complex transition zone between Qel and Qit represented by silt transported downslope as slopewash, lacustrine clay and silt deposited on hillslopes by prograding laes, and in the southwestern corner of the quadrangle by colluvium on very steep slopes.

Qig — Island gravel (Pliocene)—Clast- to matrix supported pebble gravel with medium to coarse sand. Clasts are unconformably chert pebbles with a brown matrix, brownish sandstone, and white quartz; matrix is sandy clay to clay, though some clay appears pedogenic. Gravel overlies bedrock but is rarely exposed and is covered with loess. Lithologically comparable to the Luce Gravel of Ray (1965).

Pz — Bedrock (Pennsylvanian)—Consolidated shale, sandstone, coal, and overlying poorly sorted regolith. Pz comprises the core of the uplands and includes areas of loess that are thinner than 3 ft (1 m).

EXPLANATION

- Surface observations
 - Bedrock elevation data
 - Concealed fault
 - 200 Bedrock topography elevations, (contour interval 20 ft)
- Roads**
- Federal highway or state parkway
 - State highway
 - County Road
 - County road - gravel
 - City Street

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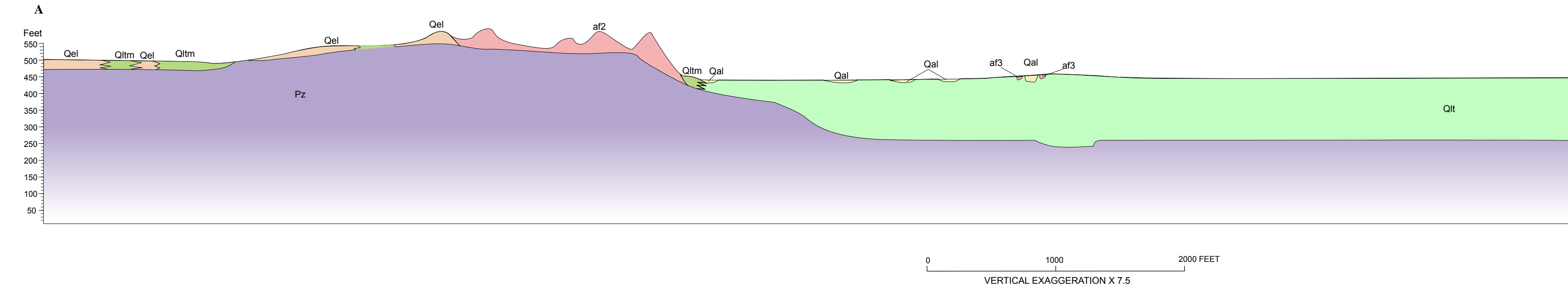
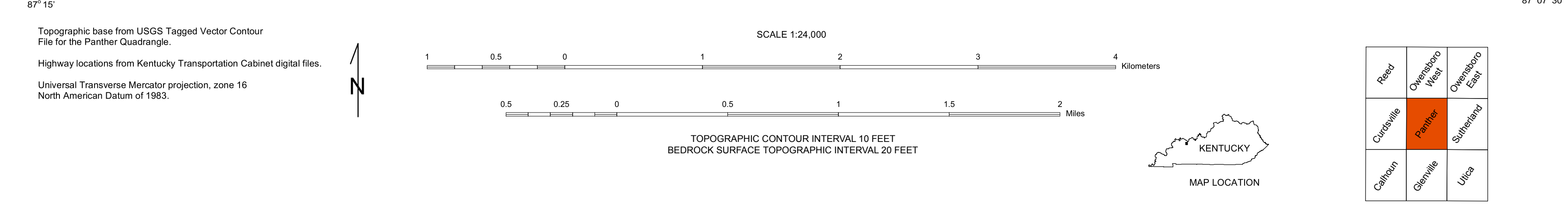
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QUATERNARY GEOLOGIC MAP OF THE PANTHER 7.5-MINUTE QUADRANGLE, WESTERN KENTUCKY

By
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