KENTUCKY GEOLOGICAL SURVEY
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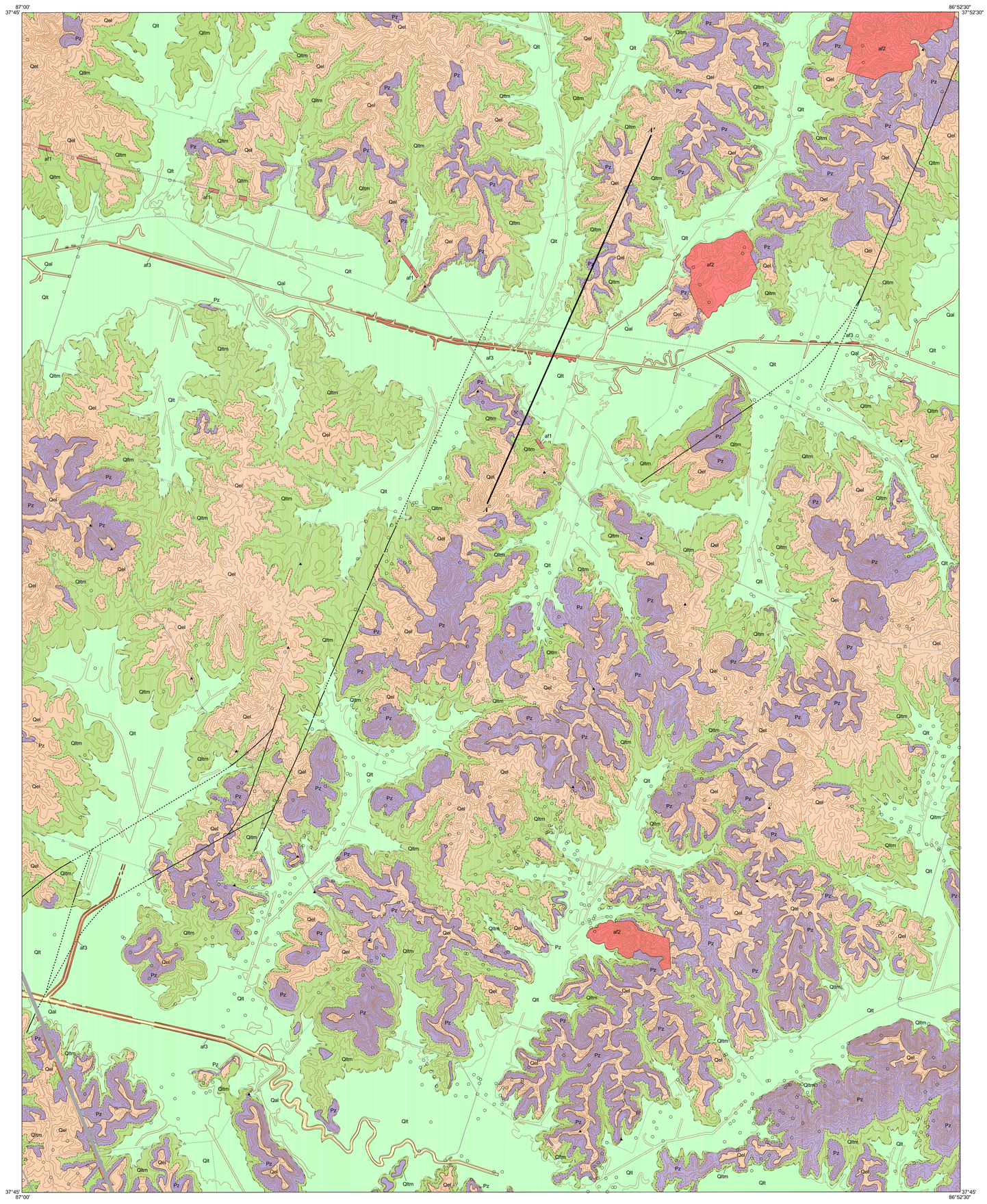
PHILPOT QUADRANGLE
DRAFT GEOLOGIC MAP
Series XII, 2006
Contract Report 15

87°00'
37°45'

86°52'30"
37°52'30"



37°45'
87°00'

37°45'
86°52'30"

Universal Transverse Mercator projection, zone 16, North American Datum of 1927.

Topographic base from USGS Tagged Vector Contour file for Philpot quadrangle.

Highway locations from Kentucky Transportation Cabinet digital files.

SCALE 1:24,000

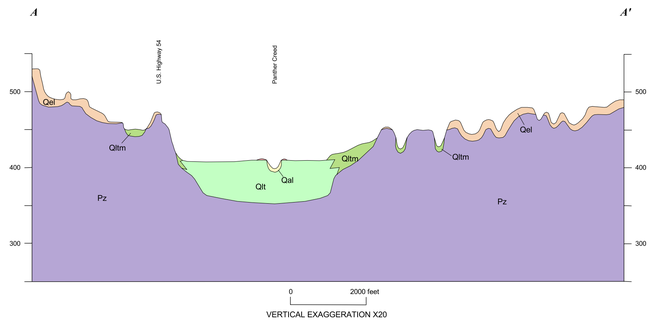
1 0 1 Miles

1 0 1 Kilometers

CONTOUR INTERVAL 10 FEET

LOCATION MAP

QUADRANGLE INDEX



VERTICAL EXAGGERATION X20

CORRELATION OF MAP UNITS

Qal		Holocene	QUATERNARY
Qel	Qlt / Qltm	Pleistocene	
Unconformity			
Pz		Pennsylvanian	PALEOZOIC

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 the north and south forks of Panther Creek, and minor tributaries; deposit is inset into adjacent map units; contact with adjacent units varies from sharp to poorly defined; mapped on the basis of field observations and topographic expression.

Qel — Loess (Pleistocene - Holocene)
Silt, clayey silt, and fine sand deposited by wind; typically massive; unit is approximately 10 feet (3 m) thick in the northwestern part of the quadrangle and thins to less than 3 feet (1 m) in the southern part of the quadrangle; mantles bedrock upland; not mapped where locally found on lacustrine terrace (Qlt) and high outwash terraces (Qot3); estimated range in age from 22,500 to 10,000 years old; locally includes thin layers of loess inferred to be older than 30,000 years.

Qlt — Lacustrine terrace (Pleistocene)
Clayey silt and silty clay; 30 to 45 feet (10 to 15 m) thick, thicker in tributary valleys; forms prominent low-relief terrace in tributary valleys and sheltered portions of Ohio River valley; unit deposited in lacustrine and slackwater environments associated with the 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 eolian and upland units (Qel) is gradational and approximate, inferred by surface topography; estimated range in age from 23,000 to 18,000 years old.

Qltm — Marginal lacustrine deposits (Pleistocene)
Clayey silt, silt, and fine sand; thickness uncertain; surface forms moderate slope and benched upland areas bordering lacustrine deposits (Qlt); represents complex transition between lacustrine deposits (Qlt) and loess (Qel) mantling upland; deposits include loess, loess-derived slopewash, colluvium, lacustrine silt and clay, and lacustrine shoreline deposits; contacts gradational and approximate, mapped on the basis of topographic expression.

Pz — Bedrock (Paleozoic)
Consolidated shale, sandstone, coal, and overlying poorly sorted regolith, comprising the core of the uplands 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.

af3 — Artificial fill, other (Modern)
Chaotic, unconsolidated fill material; includes material dredged from creeks to from artificial levees.

EXPLANATION

- Contact
- Approximate contact
- Inferred contact
- Fault
- Concealed fault
- State Parkway
- Federal highways
- State roads
- Local roads
- Railroads

Surface observations
- Landform
- Landform and soil

Subsurface data
- Database
- Clay pit

ACKNOWLEDGEMENTS

This map was generated using new field mapping and compilation of unpublished and previously published data, and was funded in part by the U.S. Geological Survey National Cooperative Mapping Program under the STATEMAP Program authorized by the National Geologic Mapping Act of 1992, Grant No. 05HQAG0007 and by the Kentucky Geological Survey.

Field mapping was completed by Steve Martin from August 2005 to January 2006, with assistance from William Andrews of the Kentucky Geological Survey. William Andrews also provided thoughtful reviews of the map.

Subsurface information was compiled from data on file at the Kentucky Geological Survey, and data contributed by the Kentucky Transportation Cabinet.

REFERENCES

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

By

Steven L. Martin

2006