Alluvium, reworked outwash, Green River scrollwork terrace (Pleistocene -

Fine to coarse sand and gravel, with local lenses of silt and clay; gravel includes chert.

quartzite, sandstone, siltstone, igneous and metamorphic rocks, limestone, and coal; lithologically similar to adjacent outwash terraces; surface mantled with eolian and

alluvial silty sand and sandy silt; up to 170 feet (52 m) thick; surface forms welldeveloped, dissected terrace along Ohio River valley; deposited as glacial outwash; represents maximum valley filling by glacial outwash valley train deposits; overlies bedrock (Pz) or older alluvial deposits (not differentiated); contact is sharp, drawn at scarp of adjacent terrace or upland; age estimated to be 120,000 to 22,000 years old;

Silt, clayey silt, and fine sand deposited by wind; typically massive; unit thickest (up to 60 feet) near Ohio River valley and thins gradually to the south; mantles bedrock

upland; mapped as bedrock where less than 3 to 5 ft (1 to 1.6 m) thick in uplands; not mapped where locally found on lacustrine terrace (Qlt) and high outwash terraces

(Qot2); estimated to range in age from 22,500 to 10,000 years old; locally includes thin

Very fine to fine sand; locally contains lenses of clayey silt; thickness uncertain, base

not observed; deposited by wind in long, linear ridges; mantled by loess up to 15 ft (5

Clayey silt, silty clay, and silty sand; 30 to 45 feet (10 to 15 m) thick; forms sinuous,

low-lying trough inset into Green River paleovalley (Qapg); represents an abandoned

channel of Green River as it migrated across the high terrace (Qot2); overlies older

Silty sand, clayey silt and silty clay with minor chert gravel; 30 to 45 feet (10 to 15 m)

thick; includes Beds at Hubert Court of Ray (1965); forms broad, linear trough inset

into and overlying deposits of adjacent high outwash terrace (Qot2) and lacustrine

terrace (Qlt); represents abandoned Pleistocene paleovalley of the Green River; contact

is sharp, drawn at scarp of adjacent high outwash or lacustrine terrace; wood from

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 and loess 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

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 (similar to Qel, not mapped); forms prominent low-relief terrace in tributary

valleys and sheltered portions of Ohio River valley; unit deposited in lacustrine and slackwater 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 eolian and upland units (Qel, Qes, Qltm) is gradational and approximate, inferred by surface topography;

Gravel and medium to coarse sand; pebbles include brown, patina chert, quartz, and

silicified fossils; locally cemented by iron oxide; thickness uncertain; unit found on uplands, covered by loess and poorly exposed; comparable to the Luce Gravel of Ray

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 to 5 ft (1

Compacted material used as fill for the construction of roads, railroads, buildings, floodwalls, and other engineered structures. Present in all areas of development:

Chaotic, unconsolidated fill material; includes material dredged from creeks to form

Areas of former land which have been removed by active erosion or dredging since the

about 40 feet deep has been radiocarbon dated to  $23,150 \pm 500$  ypb (Ray, 1965).

outwash (Qot2); contact sharp, identified by surface topography; floods occasionally.

most of terrace surface is above historic flood zone.

layers of loess inferred to be older than 30,000 years.

Alluvium, abandoned Green River channel (Pleistocene)

Alluvium, Green River paleovalley (Pleistocene)

Upland marginal lacustrine deposits (Pleistocene)

Slackwater deposits, lacustrine terrace (Pleistocene)

estimated to range in age from 23,000 to 18,000 years old.

mapped only where fill significantly changes the elevation.

artificial levees. Mapped only where fill is distinct.

completion of original topographic mapping.

Disturbed bedrock and regolith produced from mining operations.

**Upland gravel (Pliocene-Pleistocene)** 

Bedrock and residuum (Paleozoic)

Artificial fill, engineered fill (Modern)

Artificial fill, mine spoil (Modern)

Artificial fill, other (Modern)

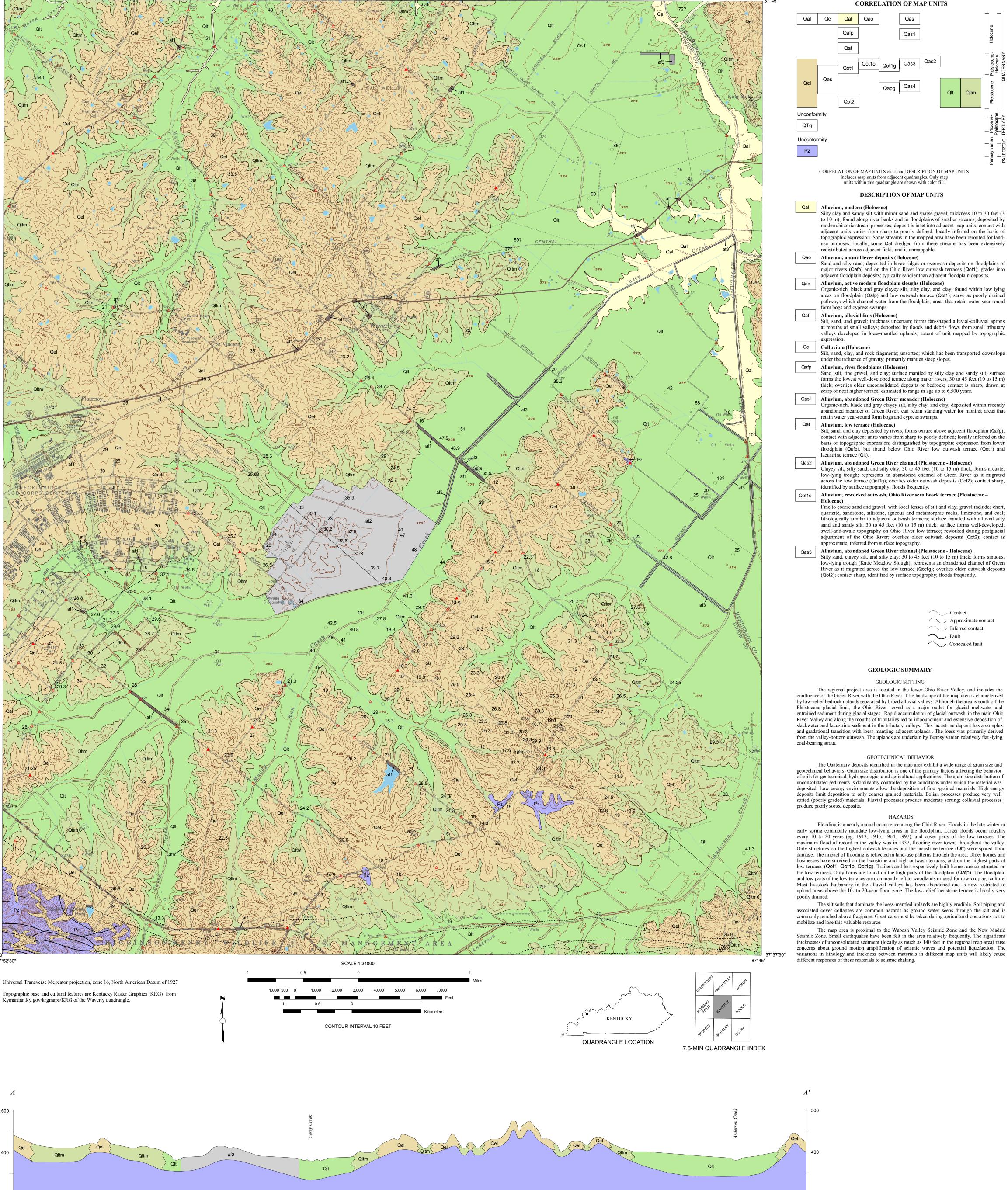
New water (Modern)

Loess (Pleistocene-Holocene)

Sand dunes (Pleistocene – Holocene)

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**VERTICAL EXAGGERATION X 20** 

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 outwash terraces; surface mantled with alluvial silty sand and sandy silt; 30 to 45 feet (10 to 15 m) thick; surface forms well-developed, swell-and-swale topography on Ohio River low terrace; deposited as point bar deposits by meandering postglacial Green River; overlies older outwash deposits (Qot2); contact is approximate, inferred from surface topography. Alluvium, outwash, low terrace (Pleistocene - Holocene) Fine to coarse sand and gravel, with local lenses of silt and clay; gravel includes chert, quartzite, sandstone, siltstone, igneous and metamorphic rocks, limestone, and coal; lithologically similar to high outwash terrace (Qot2); surface mantled with alluvial silty sand and sandy silt; 30 to 45 feet (10 to 15 m) thick; surface forms well-developed, low-relief terrace along Ohio River valley; deposited as glacial outwash reworked by late glacial or post-glacial Ohio River; overlies older outwash deposits (Qot2); contact is sharp, drawn at scarp of next higher terrace or upland; floods occasionally. Alluvium, outwash, high terrace (Pleistocene)

23 KGS database, number indicate depth to bedrock in feet ▲ Landform observation and soil probe

△ Landform observation

The silt soils that dominate the loess-mantled uplands are highly erodible. Soil piping and

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