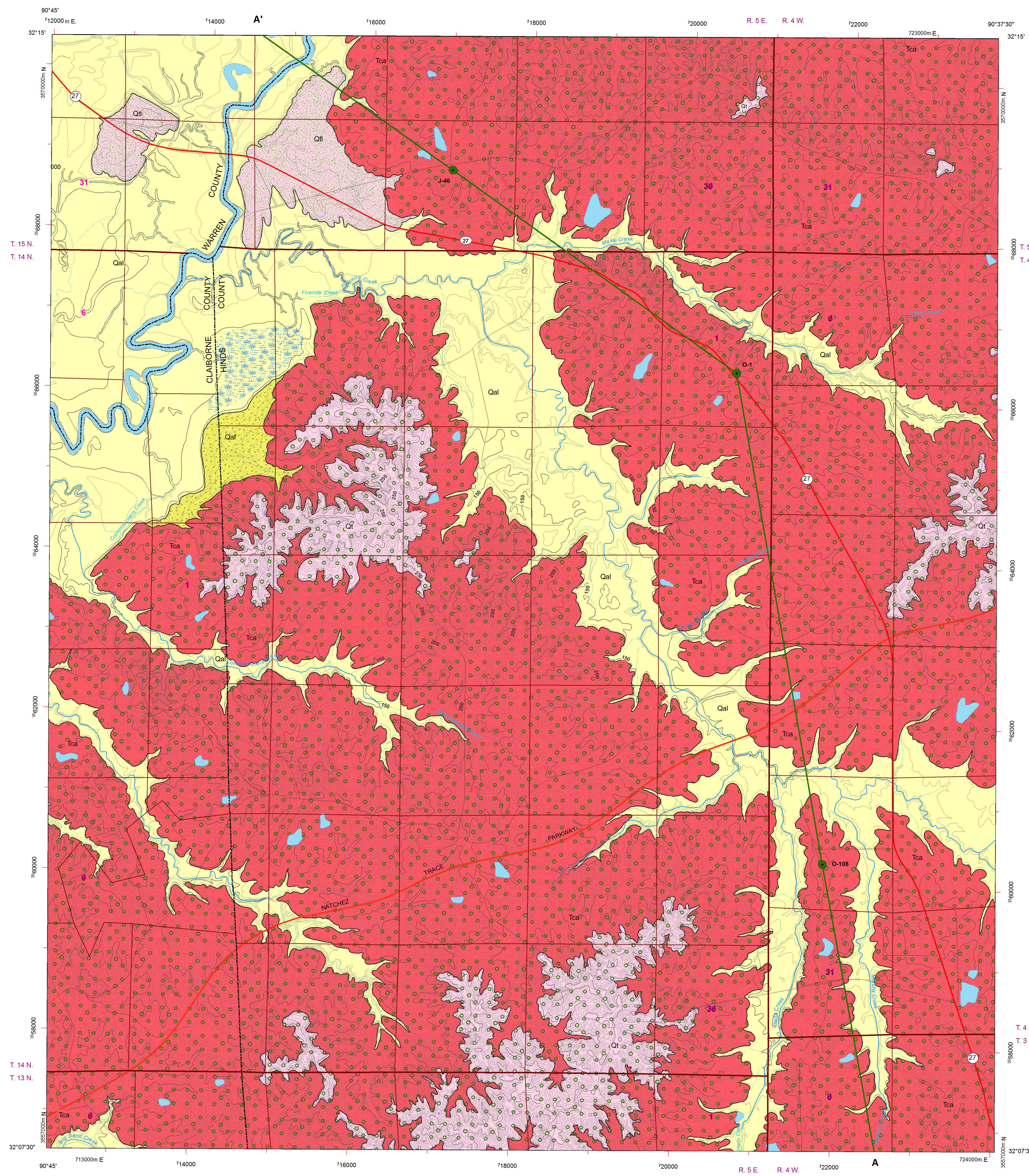


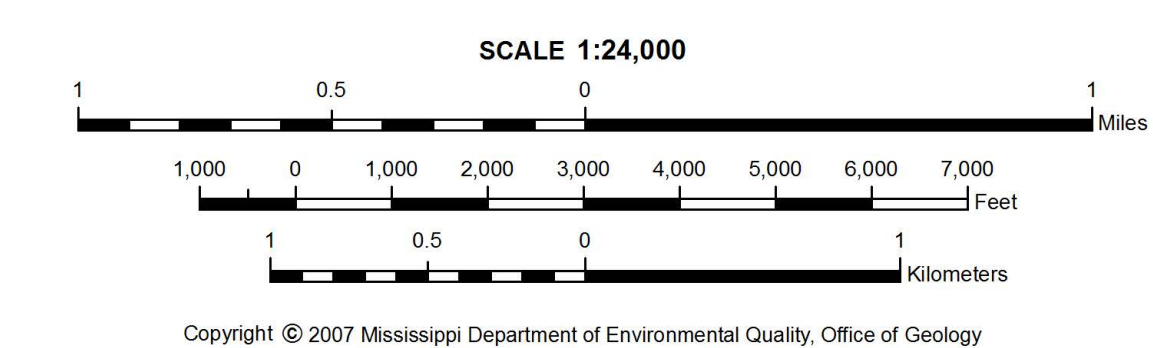
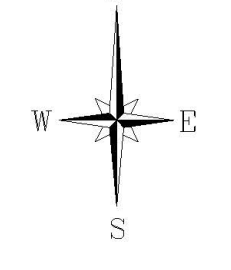
DESCRIPTION OF MAP UNITS

Geologic Unit	Description
QUATERNARY	
ALLUVIUM	
Qal	Flood plain sands, silts, gravels, and clays.
ALLUVIAL FANS	
Qaf	Alternating silts, sands, and gravels. Coarsest at the apex of the fan, fining laterally (radially) from the apex of the fan. May interfinger with neighboring fans and river alluvium.
LOW TERRACE	
Qt	First Terrace. Dissected, abandoned flood plain remnants perched just above the valley floor of the active flood plain, consisting of alluvial sands, silts, gravels, and clays.
LOESS	
L	Silt, buff to tan, pale yellow, red, or gray, sandy to clayey; quartzose to feldspathic. Loess is typically calcareous with dolomite and calcite; however, the upper portion of the loess is highly weathered, leached / noncalcareous, very clayey, and has been referred to as "brown loam". Loess is an eolian deposit derived from glacial outwash. Loess deposits unconformably blanket the pre-loess topography with substantial local variations in thickness. In places, weathered loess contains secondary deposits of small calcareous concretions (caliche, loess dolls). The basal few feet of loess grade into the sands and gravels of the pre-loess terrace deposits. Loess can be locally sparingly fossiliferous, commonly containing tests or stinkerns of pulmonate gastropods and less commonly containing fossils of Pleistocene vertebrates.
PRE-LOESS TERRACE DEPOSITS	
Qp	Sand, yellow, orange, purple, red, pink. Fine- to coarse-grained, predominantly quartzose, cross-bedded to massive; graveliferous, pea to large-cobble size clasts (boulder clasts also common in basal gravels), clasts of sandstone up to boulder size not uncommon. Gravels are predominantly chert with lesser amounts of vein quartz, metaquartzite, agate, sandstone, rare rhyolite and arkose clasts; clay, pink to white, generally occurring as discontinuous lenses and as rip-up clasts, clasts may be boulder size. Conglomeratic ironstone ledges are common in the graveliferous sands at the base of the deposits, which overlie the Catahoula Formation unconformably.
MIOCENE	
CATAHOULA FORMATION	
Tca	Clay, green, gray, brown, weathers white to brown exhibiting a "popcorn" appearance, silty to sandy, lignitic common in basal clays. Sand, gray, pale-yellow to white, fine- to coarse-grained, cross-bedded to massive, often indurated to sandstones at the surface, sands are predominantly quartzose with lesser amounts of chert, metaquartzite, mica, and heavy minerals, slightly glauconitic in places, silicified wood and fossil palm common.
TERTIARY	
OLIGOCENE	
BUCATUNNA FORMATION	
Tbu	Clay, brown to black, carbonaceous, micaceous in places, silty to fine-sandy (commonly glauconitic and fossiliferous where sandy), sparingly fossiliferous; thin marl beds in places; weathers tan to red-brown; gypsum and other sulfosalts are a common constituent of the weathering profile due to the diagenesis of abundant, highly-reactive, framboidal sulfides (such as pyrite and marcasite). The Bucatunna Formation subcrops beneath the Big Black River alluvium in the northwestern corner of the map and may outcrop in the Big Black River channel.

J-46 Drill-hole locality and identification number

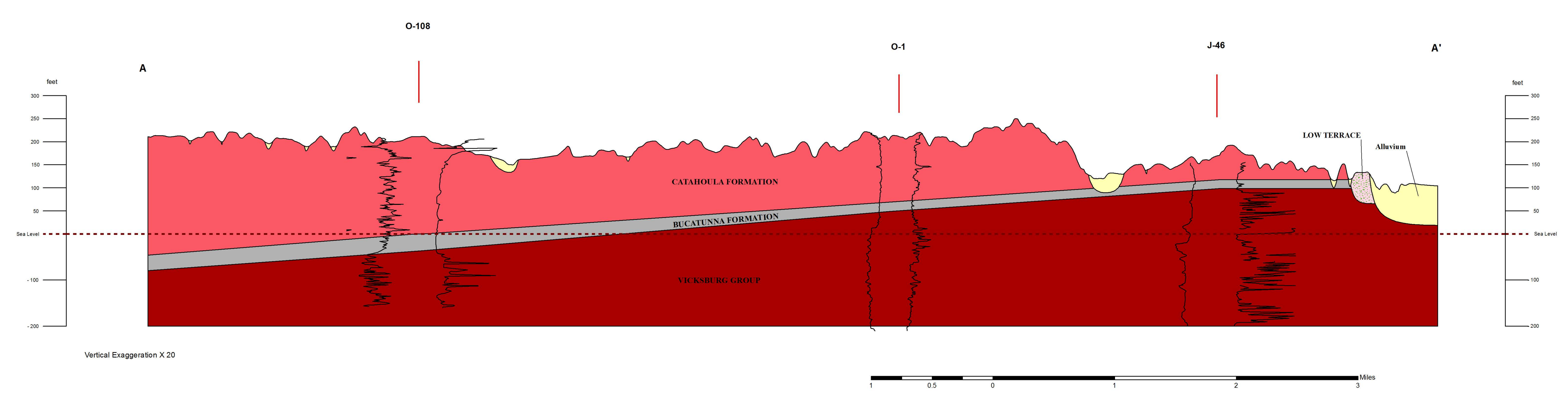


GEOLOGIC MAP
CAYUGA QUADRANGLE
 Hinds, Claiborne, and Warren
 Counties, Mississippi



Geology field checked in 2007 using the 1983, U.S. Geological Survey 7.5-minute topographic quadrangle, 1983 North American datum, contour interval 10 feet.
 Universal Transverse Mercator projection, 1983 North American datum, GRS80 spheroid, 1000-meter Universal Transverse Mercator grid (zone 15), 1983 datum shown in red, January 2007, magnetic north declination in quadrangle center is 0°36' east of true north.
 Sources: Road features, USGS Digital Line Graph data, 1:100,000 scale. Water features, USGS National Hydrography Dataset, 1:24,000 scale. Public Land Survey System and contours, Mississippi Automated Resource Information System (MARIS), 1:24,000 scale. Declination, National Oceanic and Atmospheric Administration (NOAA).
 Geographic Information System by Daniel W. Morse, MDEQ does not warrant the accuracy or completeness of the source data. Geologic maps are only a guide to current understanding and do not eliminate the need for detailed investigations of specific sites for specific purposes.
 This map was produced by the Mississippi Office of Geology in cooperation with the United States Geological Survey, National Geologic Mapping Program, under STATEMAP grant #06HQAG0022.

Structural Cross-Section of the Cayuga 7.5-Minute Geologic Quadrangle



Vertical Exaggeration X 20