

Description of Map Units

QUATERNARY SYSTEM

HOLOCENE

Alluvium, undifferentiated (Ha)—Active channel deposits of light yellow-gray and pale yellow-brown medium to coarse grained sand with terrace veneers and accumulations of brown-gray and brown muddy sand along channels of Yellow Water River, Pontchatoula Creek, Selsers Creek, and South Slough – Big Branch. Active bars along subaerial reaches consist of fine to coarse quartz sand and small (<5 cm) chert gravel. Fine sand sized opaque oxides and dark silicates occur in trace amounts (< 1%). In coastal swamp setting and mouth of Pontchatoula Creek, alluvium occurs as a muddy veneer over the Hammond platform, blending laterally with, and contributing to, active coastal swamp deposits (Hcs), and as remnants of abandoned channel courses. A finite component of the active sediment at a given locale may include materials from bridge structures upstream. Thickness < 2 m.

Coastal Swamp (Hcs)—Active deposits of brown-gray, brown, and dark brown mud and sandy mud in sea-level swamp occupying the southern one third of the quadrangle. Coarse fraction is dominated by silt to medium sand size quartz with very fine grains of iron oxides, dark silicates, and chert. Components are derived in-situ from underlying Hammond, re-worked from local Pleistocene and Holocene alluvial deposits, and imported and redistributed by flood and tidal currents, with incorporation of organic material from local and regional biomes. Thickness < 1 m.

PLEISTOCENE

Alluvium, undifferentiated (Qau)—Yellow-gray, brown-gray, and light brown stream deposits of muddy sand and sandy mud along terraces and channels of lower Selsers Creek and South Slough, eastern portion of the quadrangle. Lithology of quartz-dominant sand with trace amounts of fine size abraded opaques, dark silicates, and chert indicates local Hammond source. Kaolinite is dominant clay with lesser vermiculite and illite. A portion of these deposits are reworked and/or accumulated during flood events. Thickness < 2 m.

Small Stream Levee Deposits (Psl)—Positive relief, sinuous and branching landforms, generally bearing southward atop the Hammond surface, truncated and denuded by modern streams and tributaries. Isolated mounds of muddy coarse sand, once interpreted as eolian dunes, appear instead to be erosional remnants. Mud dominant deposits occur in shades of gray, brownish gray, and gold ochre. Sand deposits occur in shades of dark brownish red. Coarse sand to fine gravel quartz is the dominant component with subordinate amounts of fine size chert, opaques oxides, and dark silicates. Thickness < 5 meters.

Relict Coastal Ridges (Ppcr)—Low relief ridges, east-central area of the quadrangle, north of and parallel to basin bounding faults. Segmented by late Pleistocene and early Holocene entrenchment of Selsers Creek and South Slough-Big Branch. Well sorted fine and medium grained sand with mud and muddy fine sand in shades of yellow-gray and brown-gray. Sand fraction dominated by quartz with trace amounts of opaque oxides and dark silicates; clay fraction dominated by kaolinite and vermiculite with lesser amounts of montmorillonite and illite. Thickness < 2 meters.

PRAIRIE ALLOGROUP

Hammond (allo-) formation (Pph)—Laterally variable sandy mud, muddy sand, and sand-depleted clay mud sequence forms the principal lithosome platform of the entire quadrangle. Meters scale sequences of clay mud, muddy sand, and sandy mud, lacking obvious internal bedding structures are exposed in erosional cuts along Yellow Water River, Pontchatoula Creek, and Selsers Creek. These lithologies also appear in ephemeral and permanent exposures associated with construction excavations. Medium to light blue gray, gray, and brown gray are primary shades. Pedogenic rusting appears as speckling, mottling, streaking, and uniform tinting of yellow, orange-red, and red ochres. Dry exposure surfaces display pale shades of buff, yellow, yellow-orange, rusty gray, and gray. Crude vertical piping appears in weathered bluff exposures. Clay component is dominated by montmorillonite with subordinate kaolinite, vermiculite, and illite. Silt – sand fraction is dominated by quartz, with trace amount of fine and very fine sand size chert, opaque metallic iron oxides, and dark silicates. Metamorphic lithics (phyllites and greenstone) and chlorite and light micas occur in a few locations. Pedogenic goethite occurs in clay rich intervals as soft sub-centimeter nodules that harden upon exposure to the atmosphere. Base not exposed. Thickness < 30 m.