

## 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 South Slough – Big Branch, Tangipahoa River, and Bedico and East Bedico Creeks. Active bars along subaerial reaches consist of fine to coarse quartz and chert sand and chert gravel (< 5cms). Fine sand size opaque oxides and dark silicates occur in trace amounts (< 1%). At the mouths of Tangipahoa River and Bedico Creek, alluvium is a muddy veneer over the Hammond platform, blending laterally with, and contributing to, coastal swamp deposits (Hcs). A finite component of the active sediment at a given stream 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.

**Alluvium, undifferentiated (Qau)**—Yellow-gray, brown-gray, and light brown sand-dominant stream deposits – sands, sands with mud, and muddy sands – in terraces and channels of South Slough-Big Branch, lower P-Kaw-Shun Creek, mid-Bedico Creek and East Bedico Creek. Fine sand to fine gravel grain sizes are dominated by quartz with minor chert. Trace amounts of abraded opaque oxides, dark silicates, and lithics are limited to fine to medium sand sizes. Kaolinite is dominant clay with lesser vermiculite and illite. A portion of these deposits are reworked and/or accumulated during flood stages of Tangipahoa River and Bedico Creek. Thickness < 2 m.

**Alluvial Fan (Qaf)**—Distal facies of an alluvial fan centered northeast of the quadrangle. In Ponchatoula NE quadrangle, deposit includes gravelly sandy mud and muddy gravelly sand in shades of yellow ochre - gray and gray with yellow ochre mottling. Gravel and sand fraction is dominated by quartz with clasts of sandstone and chert in subordinate abundance. Opaque oxides are in trace amounts with (abraded) dark silicates very sparse to absent. Thickness < 3 meters.

#### PLEISTOCENE

**Small Stream Levee Deposits (Psl)**—Positive relief, sinuous and branching low ridge landforms, generally bearing southward atop the Hammond surface, truncated and denuded by modern streams and tributaries. Isolated mounds of muddy sand, once interpreted as eolian dunes, appear to instead be erosional remnants.

Low ridge deposits are typically muddy sand and sand with mud in shades of yellow ochre, yellow-gray, gray, and light and dark brown-gray. Fine sand to fine gravel fraction is dominated by quartz, with trace amounts of opaque oxides, dark silicates, and lithics of chert, siltstone, quartzite, and pegmatite quartz. Mound deposits consist of coarse sand with mud in shades of red and brownish red. Kaolinite is the dominant clay component with subordinate vermiculite and montmorillonite. Thickness < 5 meters.

**Relict Coastal Ridges (Ppcr)**—Low relief terrace ridges north of and parallel to basin bounding faults, segmented by late Pleistocene and early Holocene entrenchment of South Slough – Big Branch, Tangipahoa River meander belt, lower P-Kaw-Shun Creek, and Bedico Creek. Composed of fine-medium and medium-coarse grained sand with mud and muddy sand in shades of yellow ochre, yellow-gray, and brown-gray. Sand fraction dominated by quartz with opaque oxides and dark silicates in trace amounts or absent; clay fraction dominated by kaolinite and vermiculite with lesser montmorillonite and illite. Thickness < 2 meters.

#### PRAIRIE ALLOGROUP

**Hammond (allo-) formation (Pph)**—Laterally variable mix of fine to medium grained sand and mud, ranging from clay muds with sand, sandy mud, muddy sand, and sand with mud, forms the lithosome platform of the quadrangle. Subtle internal bedding structures are displayed in some exposures and absent in others. Crude vertical piping appears in weathered bluff exposures.

Primary shades are medium to light brown-gray and gray, with bluish-gray in clay-dominant intervals. Pedogenic rusting appears as speckling, mottling, streaking, and uniform tinting of yellow, orange-red, and red ochres. Dry exposures display pale shades of buff, yellow, yellow-orange, rusty gray, and gray.

Clay component consists mainly of 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 and sparse opaque iron oxides and dark silicates. Pedogenic goethite occurs in clay rich intervals as soft sub-centimeter nodules that harden upon exposure to the atmosphere.

Accessible exposures are mainly limited to man-made excavations and roadside ditches; a few natural exposures are in upper Bedico and East Bedico Creeks. Base not exposed. Thickness < 30 m.