

HOLOCENE

Matagorda Formation
Eolian Deposits

Qm-cd—**Clay dune**. Semiconsolidated silt, clay, and sand deposited by wind adjacent to active and abandoned tidal flats. May include storm deposits. Common coastal prairie vegetation.

Lavaca Member (Fluvial and Deltaic Deposits)

Qml-c—**Channel and channel fill**. Unconsolidated sand and mud filling abandoned fluvial channels.

Qml-l—**Levee**. Unconsolidated sand and mud in low, narrow areas subparallel and adjacent to active and abandoned stream channels.

Qml-cl—**Channel and levee, undifferentiated**. Unconsolidated sand and mud deposited in stream or river channel or levee setting.

Qml-pb—**Point bar**. Unconsolidated sand, silt, and clay deposited at the inside bank of sinuous, laterally migrating channel.

Qml-cs—**Crevasse splay**. Unconsolidated sand and mud deposited in fans adjacent to stream channels and levees.

Qml-fp—**Flood plain**. Unconsolidated mud and sand deposited on a low-relief valley floor during floods. Includes some minor levees, crevasse splays, and active and abandoned stream channels. Coastal prairie or wetland vegetation.

Carancahua Member (Bay- and Estuarine-margin Deposits)

Qmc-m—**Marsh deposits**. Unconsolidated mud and sand deposited in low-relief areas adjacent to bay shoreline. Common tidal channels. Salt- or brackish-water marsh vegetation.

Qmc-b—**Beach or berm deposits**. Unconsolidated sand, shell, and mud deposited along bay shoreline from wave action. Beach is unvegetated; berm may be sparsely vegetated.

Qmc-ba—**Beach or berm; abandoned**. Unconsolidated sand, shell, and mud deposited in low berm along former bay shorelines from wave action. Commonly vegetated.

Qmc-w—**Washover**. Unconsolidated sand and shell deposited adjacent to bay shoreline by high water level and wave activity during tropical cyclone passage. Commonly unvegetated.

Qmc-sp—**Spit deposits**. Unconsolidated sand, shell, and mud deposited across bay and valley mouths from erosion of adjacent shoreline and lateral sediment migration.

Qmc-tf—**Tidal flat**. Unconsolidated sand and mud deposited in a tidal flat that is periodically inundated by astronomical tides or wind-driven water at the margins of bays or tributary valleys. May include barren or vegetated areas and algal mats.

Qmc-td—**Tidal delta**. Unconsolidated sand and mud deposited at tidal inlet. May include storm washover deposits. Common salt- or brackish-water marsh vegetation.

HOLOCENE TO PLEISTOCENE

Qal—**Alluvium, undifferentiated**. Unconsolidated sand, silt, and clay deposited in a variety of environments along streams and drainages. May include Holocene deposits.

Deweyville Formation

Qd—**Deweyville Formation fluvial terrace deposits**. Unconsolidated sand, silt, clay, and less gravel deposited in alluvial channel, levee, point-bar, and flood-plain settings at elevations above the modern flood plain and below the Beaumont Formation depositional surface.

PLEISTOCENE

Beaumont Formation

Qb—**Beaumont Formation, undifferentiated**. Semiconsolidated clay, silt, sand, and minor gravel deposited in fluvial-deltaic, interdistributary, distributary, and bay and estuarine settings. Includes flood-plain and delta-plain deposits and channel, levee, and crevasse-splay deposits.

Qb-s—**Beaumont Formation, sandy facies**. Semiconsolidated sandy mud, silt, and some fine sand deposited in fluvial- and distributary-channel settings.

Qb-ch—**Beaumont Formation, channel facies**. Semiconsolidated sandy clay to clayey sand deposited in abandoned stream or distributary channels.

Ingliside Unit (Gulf-margin Deposits)

Qbi—**Barrier island, barrier peninsula, and strandplain, undifferentiated**. Semiconsolidated sand, silt, and lesser clay deposited in barrier island, barrier peninsula, or strandplain setting. Common pimple mounds, closed basins, and ridge-and-swale topography.

Qbi-bf—**Barrier flat**. Semiconsolidated sand and mud deposited in barrier-flat environment.

Qbi-bbl—**Back barrier and lagoon**. Semiconsolidated sand and mud deposited in back-barrier or lagoon environment.

Qbi-dw—**Barrier drainageway**. Semiconsolidated sand, silt, and lesser clay deposited in former larger swales, tidal channels, and washover channels. Generally low elevation with few pimple mounds. Commonly flooded by storm-elevated tides.

Qbi-elb—**Ephemeral lake basin**. Semiconsolidated sand and mud deposited in closed or connected topographic basins in a barrier-island or strandplain environment. May include younger lacustrine deposits.

Map Symbols

— Contact (distinct)
--- Contact (gradational)
--- U --- Normal fault, approximately located
— Meander scar
--- Stream (active or intermittent), drainage ditch, canal, or tidal channel
— Elevation (ft); contour interval 5 ft
— Road
--- County line
— Pier

Water; bay, large lake, or large stream connected to bay
SPW; selected ponded water
DCP; dredged canal or pond
Fill; land artificially elevated by fill material
Pit; excavation or area enclosed by levees. May contain standing water.
Br; Breakwater. Protective rock structure.

Acknowledgments and Disclaimer

Photography used in the study included (1) 0.6-m pixel, natural color, National Agriculture Imagery Program (NAIP) digital imagery, photographed in 2022 and (2) a 124,000-scale Tobin aerial photographic mosaic of the Rockport NE (now Lamar) quadrangle flown in April and May 1930. NAIP imagery was obtained from the Texas Geographic Information Office (TxGIO). Photography was supplemented by 1-m cell size digital elevation models (DEMs) constructed from data acquired during an airborne lidar survey flown by the U.S. Geological Survey (USGS) in 2016. Previous regional maps that cover this area include the 1:250,000-scale Geologic Atlas of Texas, Beeville-Bay City Sheet (Brown and others, 1975, revised 1987), the 1:125,000-scale Environmental Geologic Atlas of Texas, Port Lavaca area (McGowen and others, 1976), and the 1:125,000-scale map of Distribution of Wetlands and Benthic Macroinvertebrates from the Submerged Lands of Texas, Port Lavaca (White and others, 1989). The rationale for the mapping approach to Holocene fluvial, deltaic, bay, and estuarine deposits is described in Paine and others (2026).

The study included field observations of surficial deposits. Elevation contours were obtained from the U.S. Geological Survey in GIS format. Roads were obtained in GIS format from the Texas Department of Transportation. Streams and drainage ditches were mapped from aerial imagery and the lidar-derived DEM.

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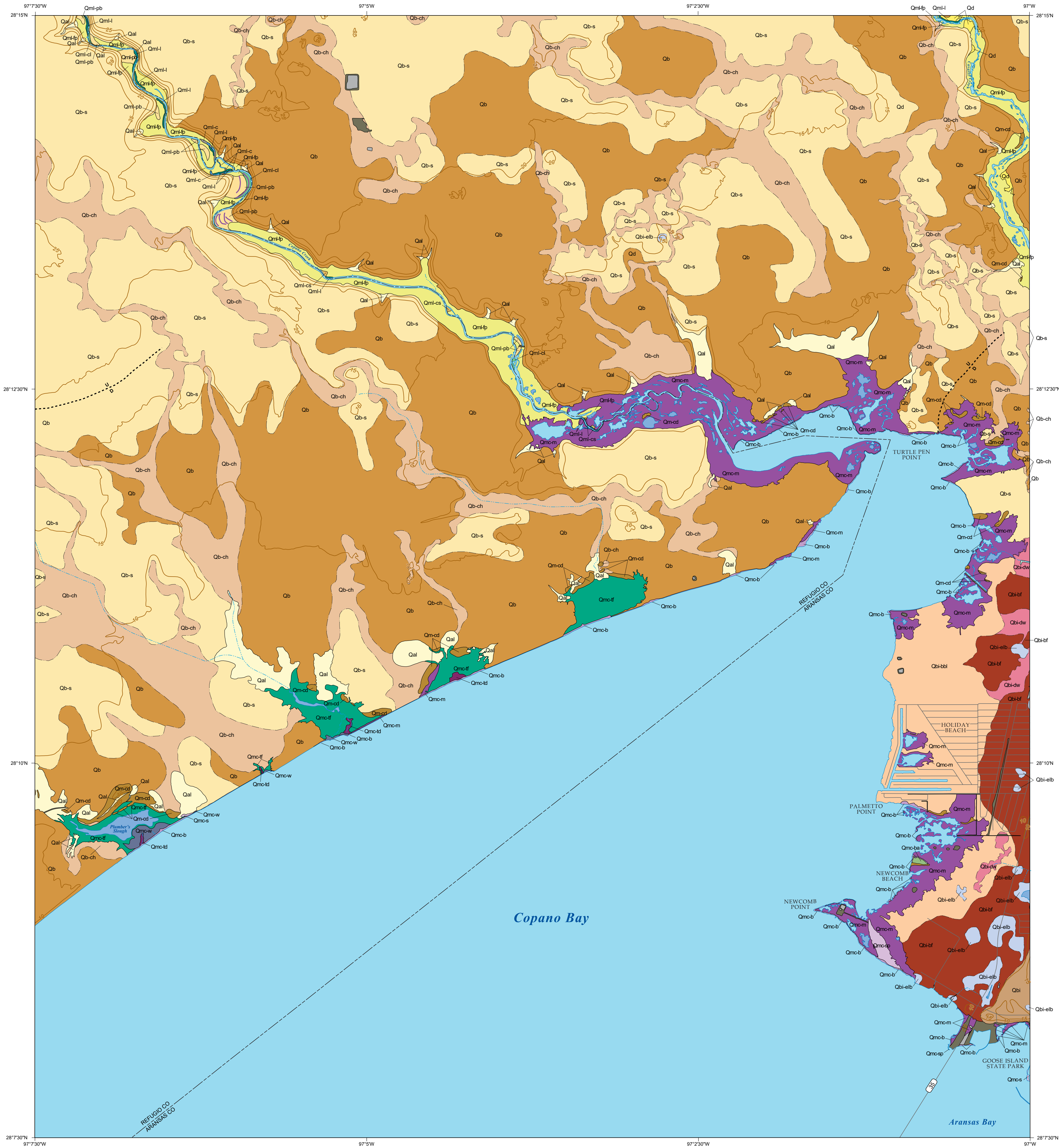
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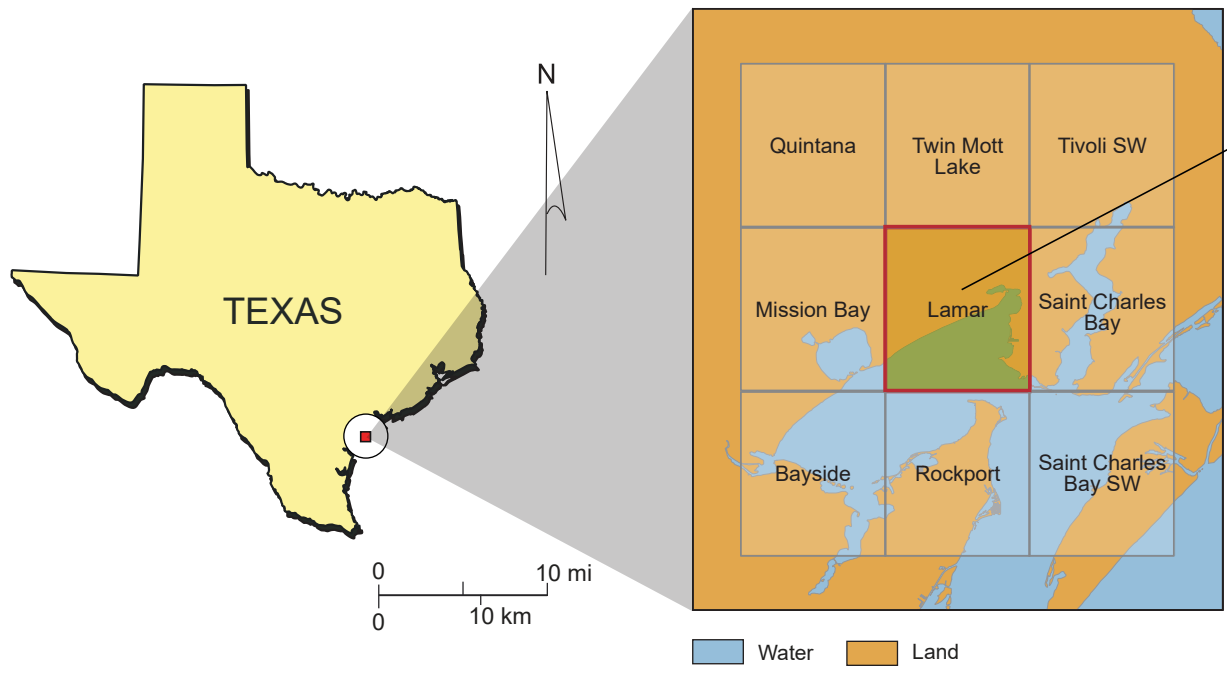
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SCALE 1:24,000
0 0.75 1.5 3 MILES
0 1 2 4 KILOMETERS
UNIVERSAL TRANSVERSE MERCATOR PROJECTION, ZONE 14N NAD 83

**GEOLOGIC MAP OF THE LAMAR QUADRANGLE,
TEXAS GULF COAST**
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2024
(Revised 2026)

N
0.91°GN
2.74°MN
Approximate 2024 Magnetic North
(MN) declination



System	Series	Time (ka)	Map Units				
Quaternary	Holocene	0	Eolian	Lacustrine	Fluvial and Deltaic	Bay and Estuarine	Gulf Margin
			Qm-cd		Qml-c, Qml-l, Qml-cl, Qml-pb, Qml-cs, Qml-fp	Qmc-m, Qmc-b, Qmc-ba, Qmc-w, Qmc-sp, Qmc-tf, Qmc-td	
	Pleistocene	~12			Qal, Qd		
		~2,600			Qb, Qb-s, Qb-ch		Qbi, Qbi-bf, Qbi-bbl, Qbi-dw, Qbi-elb