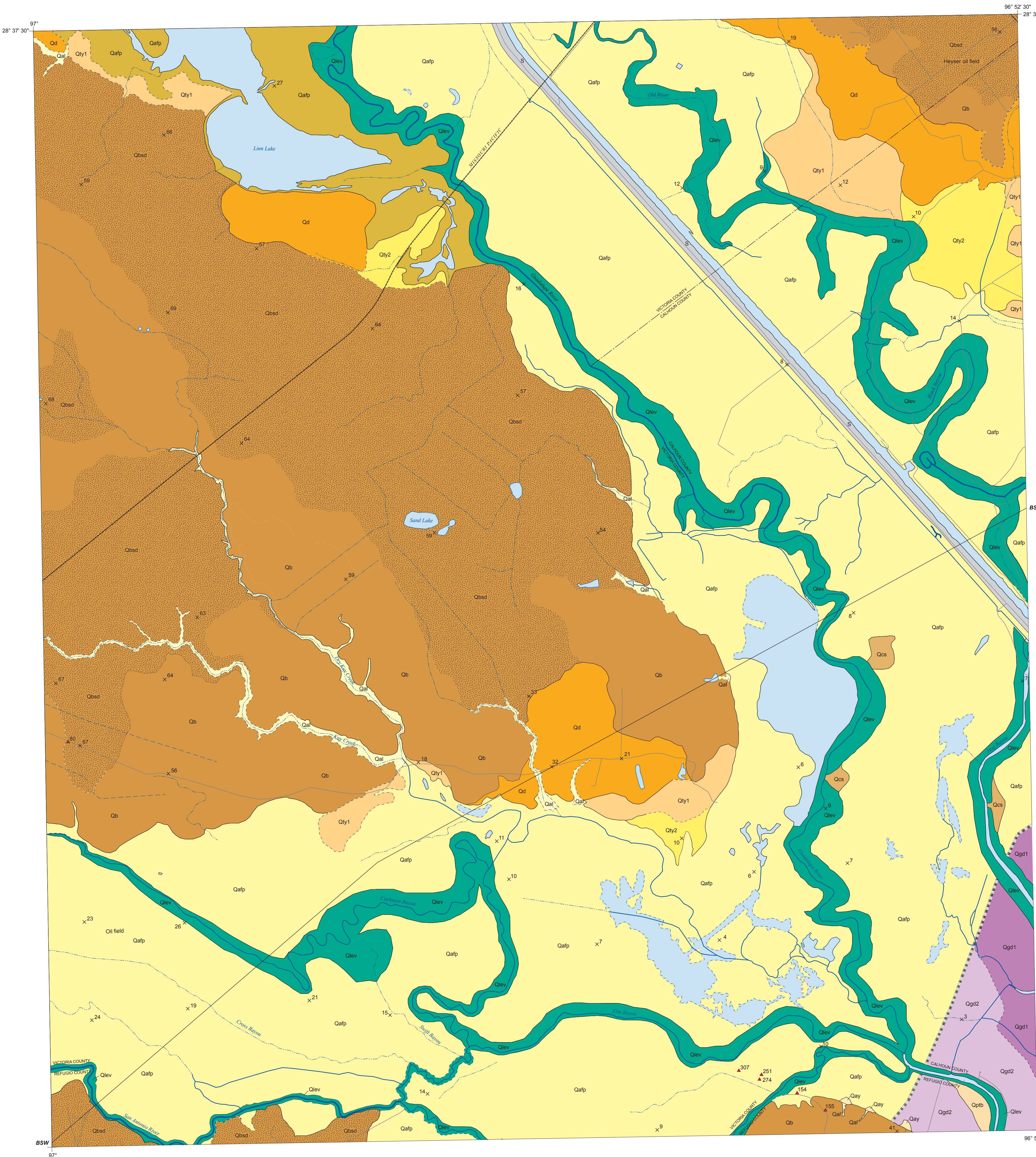




- Explanation**
Modern to Holocene
- Qal** **Qal—Alluvium of drainage ways.** Sand, clay, less gravel.
 - Qay** **Qay—Alluvium of young terraces and fans, undivided.** Sand, clay, less gravel.
 - Qafp** **Qafp—Floodplain alluvium.** Sand, clay, less gravel. Includes undifferentiated, minor levees, crevasse splays, tidal-channel levees, and active and abandoned stream channels.
 - Qlev** **Qlev—Levee deposits.** Sand and mud. Low, narrow deposits subparallel and adjacent to stream and tidal channels.
 - Qcs** **Qcs—Crevasse-splay deposits.** Sand and mud. Commonly fan-shaped deposits adjacent to stream channels and levees.
 - Qptb** **Qptb—Point-bar deposits.** Sand and some mud.
 - Qgd2** **Qgd2—Guadalupe Delta lobe 2.** Mud and sand. Delta-plain deposits associated with the delta system as it migrated southward across the Guadalupe valley and into the bay system. Divides Mission Lake—Guadalupe and Hynes Bays. Includes undifferentiated, minor fluvial levees, crevasse splays, tidal-channel levees, and active and abandoned stream and tidal channels.
 - Qgd1** **Qgd1—Guadalupe Delta lobe 1.** Mud and sand. Delta-plain deposits that separate Green Lake from Mission Lake—Guadalupe Bay. Includes minor fluvial levees, crevasse splays, tidal-channel levees, and active and abandoned stream and tidal channels.
- Holocene to Upper Pleistocene**
- Qty2** **Qty2—Alluvium of lower young terraces.** Sand and mud, less gravel. Typically 5 to 10 ft above floodplain and delta plain.
 - Qty1** **Qty1—Alluvium of higher young terraces.** Sand and mud, less gravel. Typically 10 to 15 ft above floodplain and delta plain.
 - Qd** **Qd—Deweyville Formation.** Sand, silt, clay, and gravel. Includes point-bar, levee, and stream-channel deposits. Inset into and overlying Beaumont Formation.
- Pleistocene**
- Qb** **Qb—Beaumont Formation.** Clay, silt, sand, and minor gravel in fluvial-deltaic interdistributary and distributary setting. Includes stream-channel, point-bar, natural-levee, crevasse-splay, and back-swamp deposits. Some coastal-marsh, mud-flat, and lagoon deposits. Stippled pattern indicates sand-rich channel facies. **Qbsd**, having approximate contacts.

- MAP SYMBOLS**
- Contact; dashed where approximate
 - ▤ Gradational contact approximate
 - 41x Elevation (ft)
 - 155 Apparent electrical conductivity (in millisiemens per meter, or mS/m) of the ground measured using a Geonics EM31 ground conductivity meter in the vertical dipole coil orientation. Value shown is a bulk conductivity from the surface to depths of 10 to 20 ft (McNeill, 1980a, b).
 - Selected ponded water and streams; ponded water and channels of Guadalupe Delta include regularly flooded areas and intermittently flooded areas such as flats. Blue line indicates stream or canal with narrow channel.
 - Intermittent stream or canal
 - S Spoil
 - Railroad
 - Road

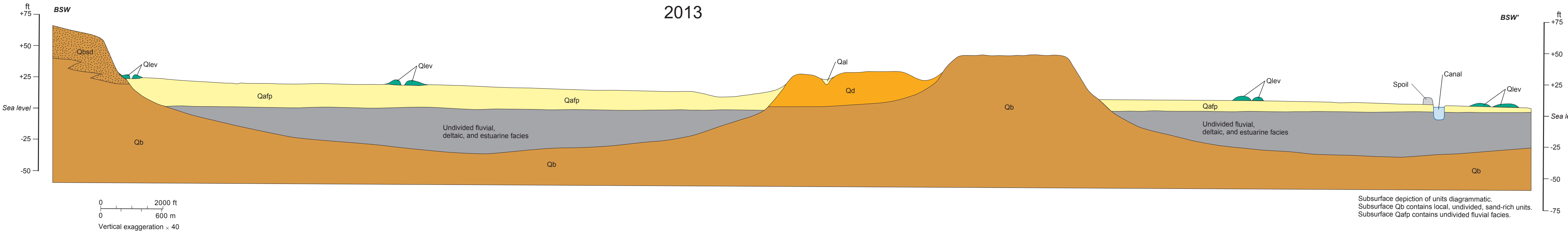
Photography used in the study was 0.5-m-pixel digital imagery photographed in 2008–2009 and 1-m-pixel digital imagery photographed in 2010 and 2012. Both imagery sets were downloaded from the Texas Natural Resources Information System (TNRIS). The 1859 Guadalupe Delta shoreline shown on Sheet 1, Austwell Quadrangle, was adapted from the Guadalupe Delta shoreline mapped on U.S. Coast Survey Register No. 767 (Dennis, 1859), and the 1930 Guadalupe Delta shoreline was mapped using 1930 aerial photomosaics (1:24,000). Data from a 2013 airborne lidar survey of the delta were also used for this study. Previous regional maps that cover this area include the 1:125,000-scale *Environmental Geology Port Lavaca Sheet* (McGowen and others, 1976), the 1:125,000-scale map of *Distribution of Wetlands and Benthic Macroinvertebrates* (White and others, 1989), and the 1:250,000-scale *Geologic Atlas of Texas, Beeville—Bay City Sheet* (Aronow and others, 1975; revised 1987). Sand-rich facies, Qbsd, of the Beaumont Formation are adapted from 1:250,000-scale interpretations of the *Beeville—Bay City Sheet* (Aronow and others, 1975; revised 1987), review of soil maps (Carter and others, 1927; Mowery and others, 1978; Guckian and others, 1988; Miller and others, 1988), field observations, and ground-based electromagnetic conductivity measurements. The 1:250,000-scale interpretations of the *Beeville—Bay City Sheet* (Aronow and others, 1975; revised 1987) are displayed in digital data files developed by the Texas Water Development Board and U.S. Geological Survey as part of the 1:250,000-scale *Statewide Digital Geologic Atlas of Texas* created from hard-copy maps. Digital files for topographic elevation points came from TNRIS for U.S. Geological Survey topographic quadrangle maps Austwell, Bloomington SW, Green Lake, Seadrift, and Tivoli. Elevation points are used for the map base because existing topographic-line data files do not accurately illustrate the modern fluvial-deltaic system's topography. Digital files of roads and railroads were also obtained through TNRIS. Water bodies were adapted from aerial photographs and U.S. Geological Survey topographic maps. Leroy Reinecke, Texas Parks and Wildlife Department, assisted with access to Guadalupe Delta Wildlife Management areas. Daniel Alonso, San Antonio Bay Foundation, provided information on the study area and collected water-clarity data of the bay in support of the lidar survey. BEG staff Kutalmis Saylam, Tiffany Caudle, Aaron Averett, Ruth Costley, John Andrews, and Tom Tremblay performed lidar survey tasks. Editing was by Lana Dienerich. Work for this map was supported partly by the U.S. Geological Survey, National Geologic Mapping Program, with the assistance of STATEMAP and No. G12AC20287, and partly by BEG STARF funds for geologic mapping and study of geologic hazards and resources. Views and conclusions contained in this map should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. Government. The authors disclaim any responsibility or liability for interpretations from this map or digital data or decisions based thereon.

Edward W. Collins, Project Coordinator
Graphics by John T. Ames

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GEOLOGIC MAP OF THE GUADALUPE DELTA, TEXAS GULF OF MEXICO COAST: SHEET 2, BLOOMINGTON SW QUADRANGLE

Edward W. Collins and Jeffrey G. Paine
2013



Subsurface depiction of units diagrammatic.
Subsurface Qb contains local, undivided, sand-rich units.
Subsurface Qafp contains undivided fluvial facies.