

Marc B. Edwards Consulting Geologists, Inc.

Regional Geologic Studies of Middle and Upper Wilcox

1. South Texas – Zapata Phase

2. Bee-Goliad-Victoria Phase

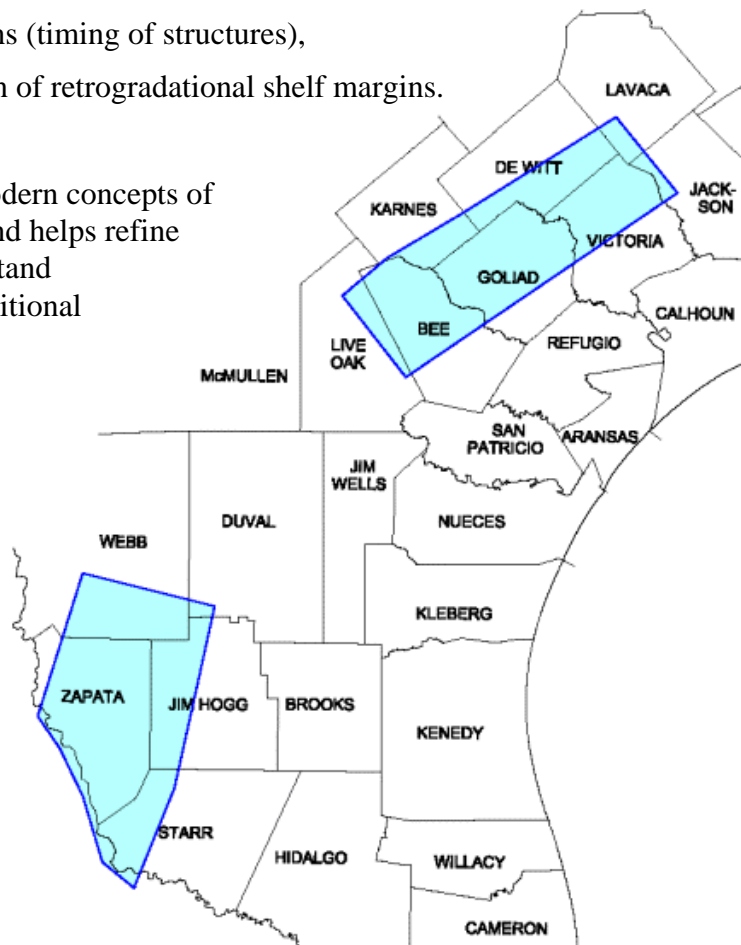
Wilcox Studies Overview

These high-resolution, stratigraphic, paleogeographic and paleostructural analyses of the Middle and Upper Wilcox section of South Texas (see figure) build on Marc B. Edwards’ previous studies of the Yegua trend of Texas and Louisiana (1987, 1989), and the Lower Miocene of South Louisiana (1993). These downdip Wilcox studies yield significant new insights into the:

- regional stratigraphic framework that extends across major growth faults,
- loci of sand depoaxes and paleogeographic elements,
- paleo-subsidence patterns (timing of structures),
- significance and location of retrogradational shelf margins.

These analyses integrate modern concepts of stratigraphy and structure and helps refine the Wilcox in terms of lowstand shorelines, deepwater depositional systems and shelf margin collapse processes.

These downdip Wilcox studies focus on Zapata County of the South Texas Wilcox Trend and the Bee-Goliad-Victoria area of the Middle Texas Gulf Coast.



Approach

Logs for key wells were subjected to detailed stratigraphic and structural interpretation using cross section and mapping analysis. Concepts of genetic and sequence stratigraphy were used to subdivide the Middle and Upper Wilcox with numerous major and minor stratigraphic markers. Most of the markers correspond to flooding surfaces, but a few are key unconformities.

Many of the newly described features include unconformities, faults, channels and basin-fill geometries that are either well below the resolution of, or are not readily imaged on, structurally complex Gulf Coast Basin seismic data. The detailed cross sectional analysis utilized A2D Technologies' powerful well-log interpretation software, smartSECTION®. Interpreted tops, fault picks, sand counts and unconformity surfaces were stored and managed in a digital database.

Deliverables

The interpretation is largely digital, and includes a report with a comprehensive set of map and cross section displays.

Results based on a comprehensive set of key wells ♣Zapata 850; ♥Bee-Goliad-Victoria 1,585,

Structural and stratigraphic cross sections highlighting the regional structural and stratigraphic framework ♣Zapata 55 sections; ♥Bee-Goliad-Victoria 58 sections,

Percent sandstone and log facies maps showing the positions of growth faults and depositional patterns ♣ ♥23 sand maps in both studies.

Digital database of tops, fault picks and sand and log facies interval counts
♣Zapata 35,000 tops, 1,500 fault picks, 25,000 sand & log facies interval counts
♥Bee-Goliad-Victoria 35,000 tops, 800 fault picks, 35,000 sand & log facies counts,

Key figures that illustrate the depositional and structural history of the study area

All data keyed to API number for convenient import into other applications.

Licensors also receive the text and many of the maps and cross sections in hardcopy form. All documents are provided on CD-ROM in both PDF and HP (PLT) large format plot files.

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All geological references can be obtained on this web site.