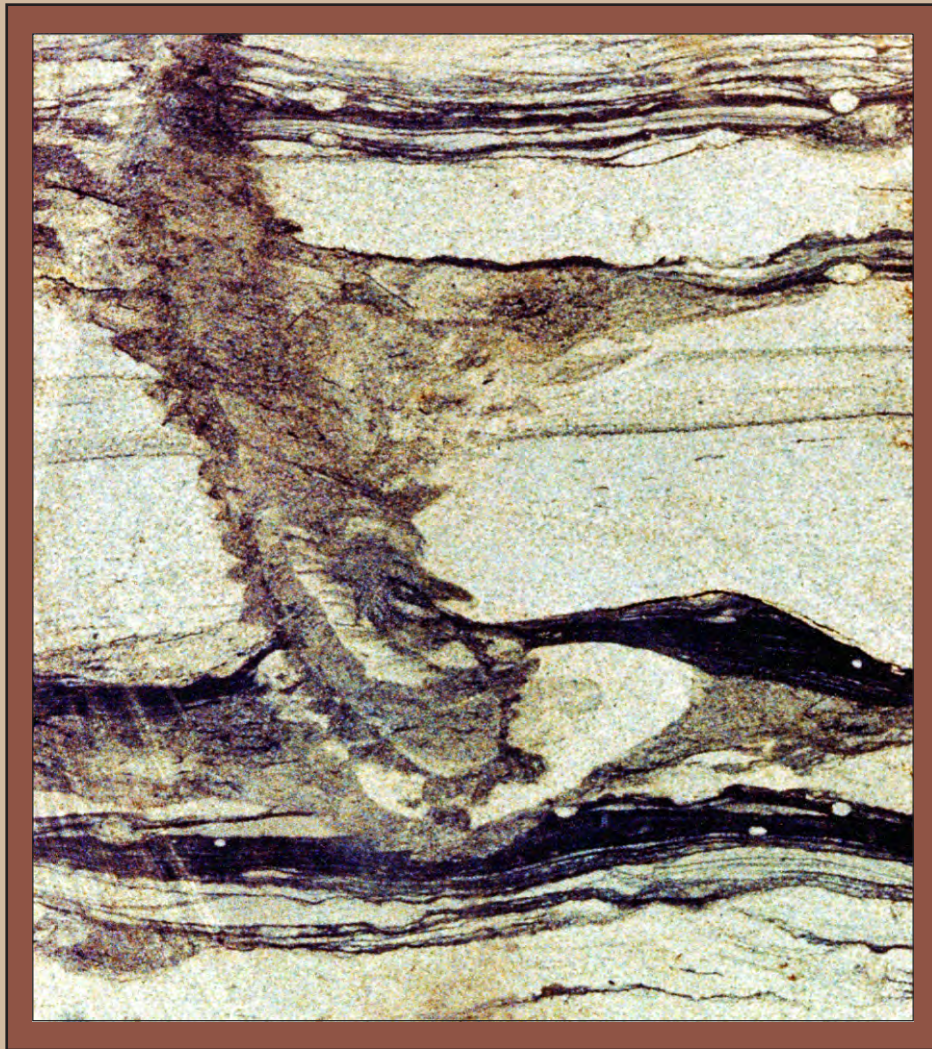


# Wilcox Trend of the Texas Gulf Coast



# Wilcox Trend South Central Region Texas Gulf Coast

## Overview

The study area for the Wilcox Trend report in south central Texas includes portions of Colorado, Lavaca, Dewitt, Karnes, Wharton, Jackson, Victoria, Goliad, Bee, Live Oak, Wilson, Gonzales, Fayette, and Austin counties, an area of approximately 9,500 square miles. This area includes both the updip (stable platform) and downdip (unstable platform margin) Wilcox plays. The study assists explorationists working with Wilcox sand-rich systems and with Lower and Middle Wilcox shale-filled channel systems, including the Yoakum and Lavaca Channels.

Correlations of 1940 logs define the nature of Lower and Middle Wilcox depositional systems as they prograded across the stable Cretaceous carbonate platform into the expanded downdip area. Core data were used to document the interpretation of depositional systems. Correlation of low-resistivity shale markers in the Lower and Middle Wilcox aided significantly in the recognition and delineation of depositional systems and large erosional channels. Cross sections and maps illustrating stratigraphic character, sand distribution, channel limits, and reservoir geometries are among the available products for clients of the study.

Wilcox deltas associated with an unstable platform margin account for a major

exploration trend in south central Texas. This detailed stratigraphic analysis of the Wilcox platform margin trend, using a dense well control of one well per 4,000 feet where possible, will lead to a better prediction of reservoir occurrence in conjunction with major Wilcox growth faults. In addition to the logs correlated in the updip and channel trends, all available well logs in the platform margin and downdip trends have been incorporated in the study. Seismic data were used to establish the structural framework and to aid in the correlation of well logs. GDI has produced a series of detailed net sandstone and isopach maps of genetic intervals that illustrate depositional style and sand geometry. The maps and associated cross sections highlight exploration fairways in the downdip areas where current well control is sparse.

This regional stratigraphic synthesis of the Lower and Middle Wilcox in south central Texas is based on a detailed analysis of 1940 logs. Detailed analysis of 3,900 feet of whole core, and a variety of petrographic and paleontologic data, have been used in conjunction with a series of net sand percent and isopach maps, structural and stratigraphic cross sections, and maps of major Wilcox fields in the study area.

## Database

1,940 Study Wells

20 Cores Described

## Maps

Regional Maps (1":24,000')	1	Penetration Map of Study Wells
2 Interval Isopach Maps	1	Production/Field Index Maps
19 Net Sand Maps		Fault Trend Maps (Top of Middle and Lower Wilcox)
2 Percent Sand Maps		

## Cross Sections

- 6 Regional depositional-dip Sections
- 2 Regional depositional-strike Sections

Subregional cross sections in erosional channel areas

## Seismic Data

400 Miles

## Report Contents

**TEXT AND FIGURES** - This report includes discussions and figures on such topics as: Regional Setting, Depositional Facies and Facies Sequences, Petrography, Stratigraphic Nomenclature, Depositional Systems, Exploration Concepts, and Bibliography.

**CORE DESCRIPTIONS** - This section contains the graphic descriptions of about 3,900 feet of Lower and Middle Wilcox core from 20 wells. Sedimentological characteristics, particularly physical and biogenic structures, are useful for interpretations of depositional processes, paleoenvironments, and facies.

**INTERPRETIVE ATLAS** - This section provides a brief review of major findings of

the study. It includes small-scale versions of key maps and cross sections from the maps and cross section files. It also provides lithofacies interpretation of regional cross sections, depositional axis interpretation of net sand maps and interval descriptions, as well as paleogeographic reconstructions of map intervals.

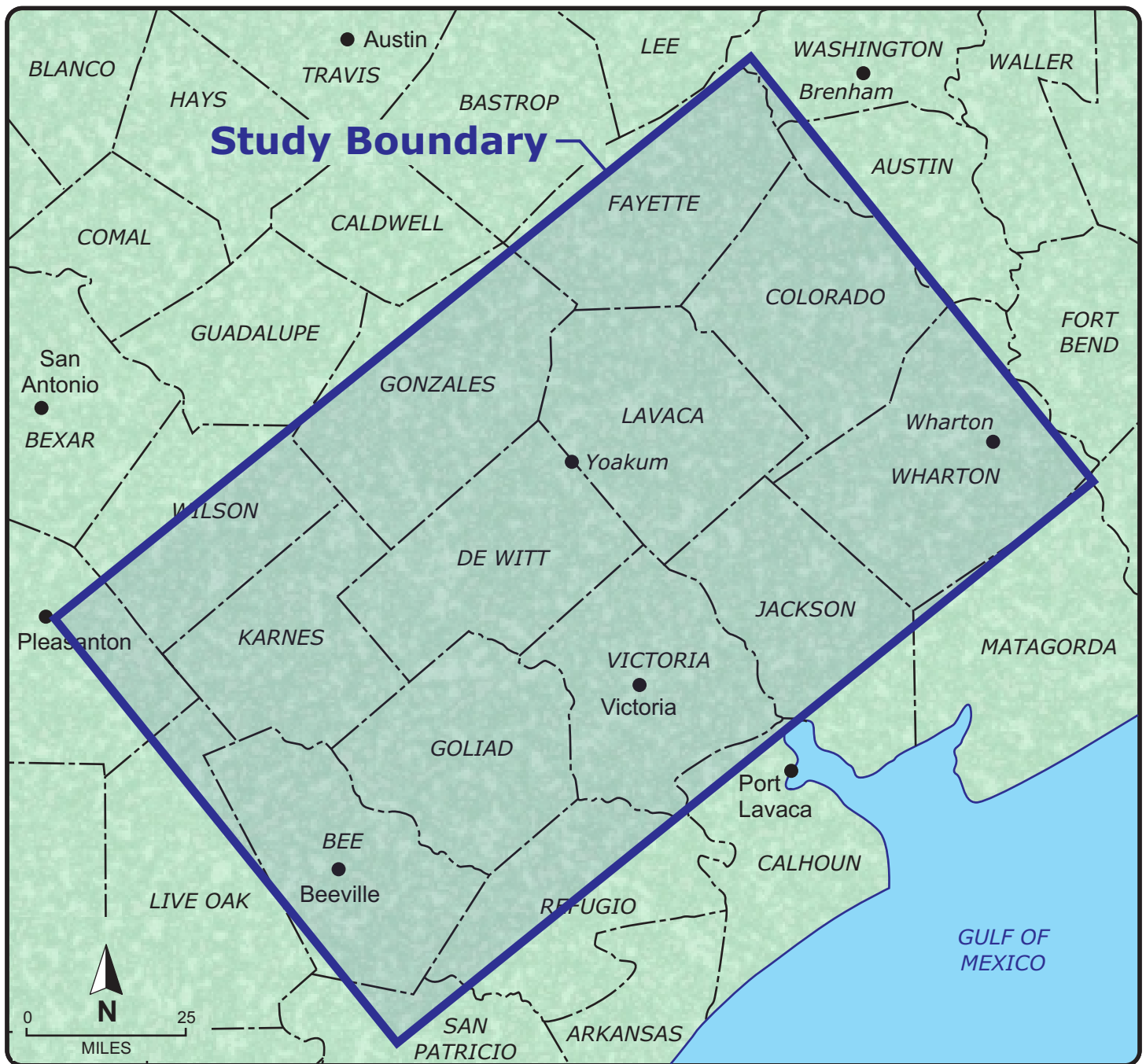
**STRATIGRAPHIC DATA** - Well identification and stratigraphic marker data for the 1,940 study wells in this study are available in digital form. This database includes the stratigraphic and net sandstone data for the study wells including log tops, log bottoms, isopach and net sequences within each mapped interval. This

information is referenced by well name, operator, and API number.

**MAPS AND CROSS SECTIONS** - These two files contain a grid of regional cross sections including two strike-oriented sections and six dip-oriented sections to

depict the basic stratigraphic framework of the Lower and Middle Wilcox. The files also contain 27 regional maps. These maps include interval isopachs, net sand, percent sand, fault trace, study well, and field name maps.

# Wilcox Trend of the Texas Gulf Coast



**Wilcox Trend**  
of the  
Texas Gulf Coast

**Study**  
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# LIST OF MAPS AND CROSS SECTIONS

## REFERENCE MAPS

Study Well Reference Map Overlay  
Field Name Map  
WCXM 100 Fault Trace Map Overlay  
WCXL 100/101 Fault Trace Map Overlay

## ISOPACH MAPS

WCXL 803 - 843 Interval, Valley Sequence C  
WCXL 803 - 953 Interval, Valley Sequence F

## NET SAND MAPS

WCXM 100 - 200 Interval  
WCXM 200 - 400 Interval  
WCXM 400 - 500 Interval  
WCXM 500 - 600 Interval  
WCXM 600 - 800 Interval  
WCXM 800 - WCXL 100/101 Interval  
WCXL 100 - 130, 101 - 201 , 100 - 125 Intervals  
WCXL 130 - 170, 201 - 251 , 125 - 175 Intervals  
WCXL 170 - 230, 251 - 351 , 175 - 305 Intervals  
WCXL 230 - 253, 351 - 401 , 305 - 405 Intervals  
WCXL 253 - 403, 401 - 501 , 405 - 505 Intervals  
WCXL 403 - 603, 501 - 551 Intervals  
WCXL 603 - 703 Intervals  
WCXL 703 - 753, 551 - 701 Intervals  
WCXL 753 - 803, 701 - 801 Intervals  
WCXL 803 - 853 Interval  
WCX L 853 - 903 Interval  
WCXL 903 - 973 Interval  
WCX L 973 - 993 Interval

## PERCENT SAND MAPS

WCXM 100 - WCXL 100/101 , Middle Wilcox  
WCXL 100/101 - Base of Sand, Lower Wilcox  
WCXL 253 - 803, 401 - Base  
WCXL 100 - 253, 101 - 401

## REGIONAL CROSS SECTIONS

Strike 1, 4 plates

Strike 2, 2 plates

Dip Sections

U - U'

V - V'

W - W'

X - X'

Y - Y'

Z - Z', 2 plates

# **Wilcox Trend** of the Texas Gulf Coast

## **Selected Figures from the Study**





Figure 3.24. Infrared Landsat image of the Port Lavaca-Matagorda Island area, Texas Gulf Coast. The principal geographic features are identified in Figure 3.23. North is toward the left.

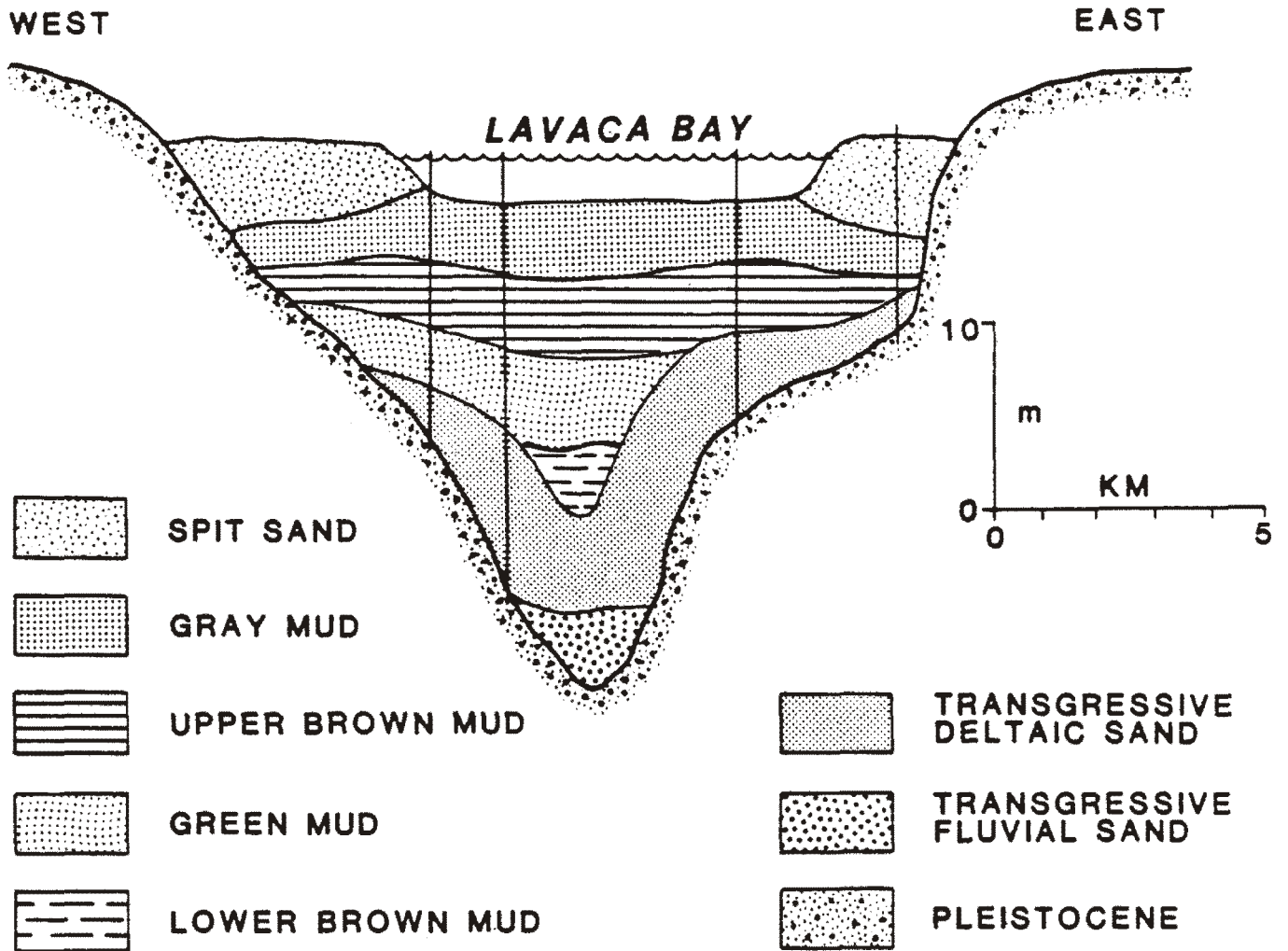


Figure 3.27. Strike section across the southern end of Lavaca Bay, Texas, showing late Pleistocene and Holocene stratigraphic units and paleoenvironments. (From Wilkinson and Byrne, 1977.)

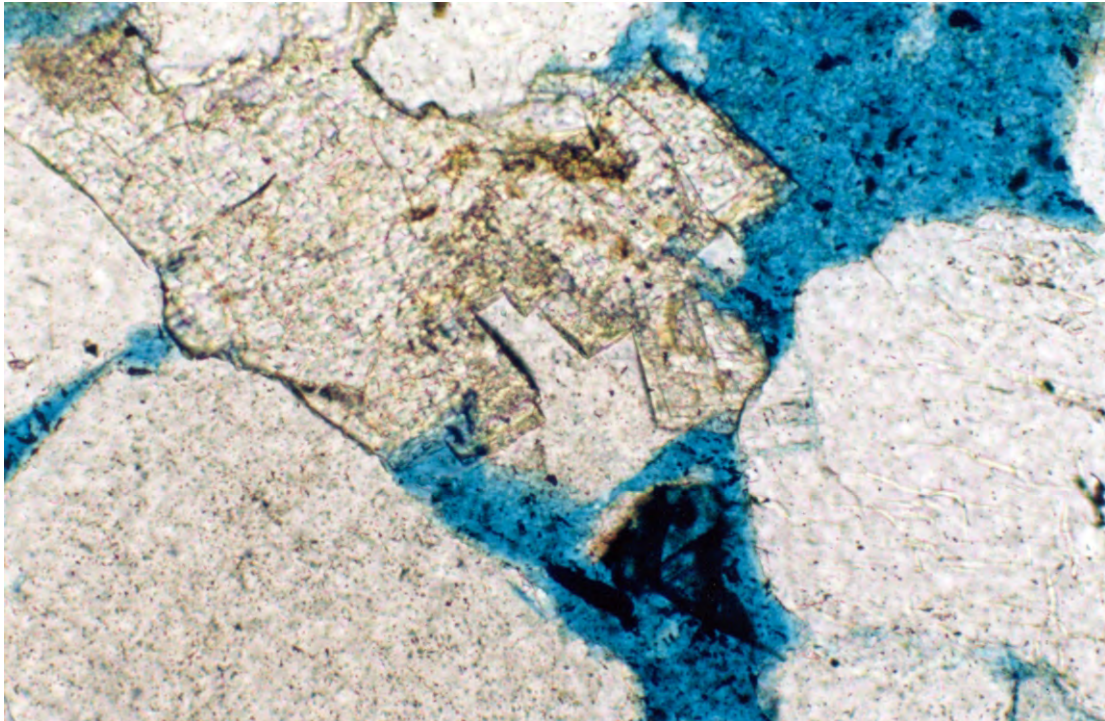


Figure 4.21. Photomicrograph of ankerite automorphically replacing a detrital framework grain (center) as well as infilling the adjacent intergranular areas. Sample from core depth 9345 feet in the Schobel #10-6 well, Colorado County.

Plane light, 220x

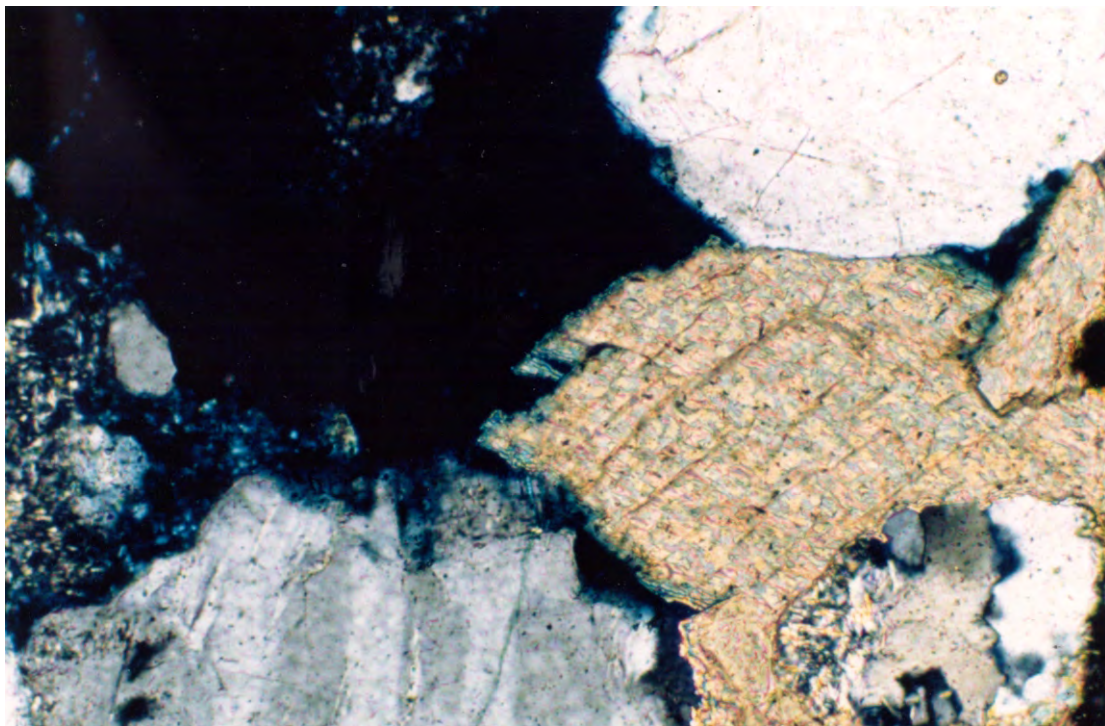


Figure 4.22. Void-filling ankerite cement exhibiting an irregular margin indicative of minor partial dissolution. Sample from core depth 9345 feet in the Schobel #10-6 well, Colorado County.

Crossed nicols, 220x

# STAGES IN DEVELOPMENT OF MARINE TRANSGRESSIVE SHALE

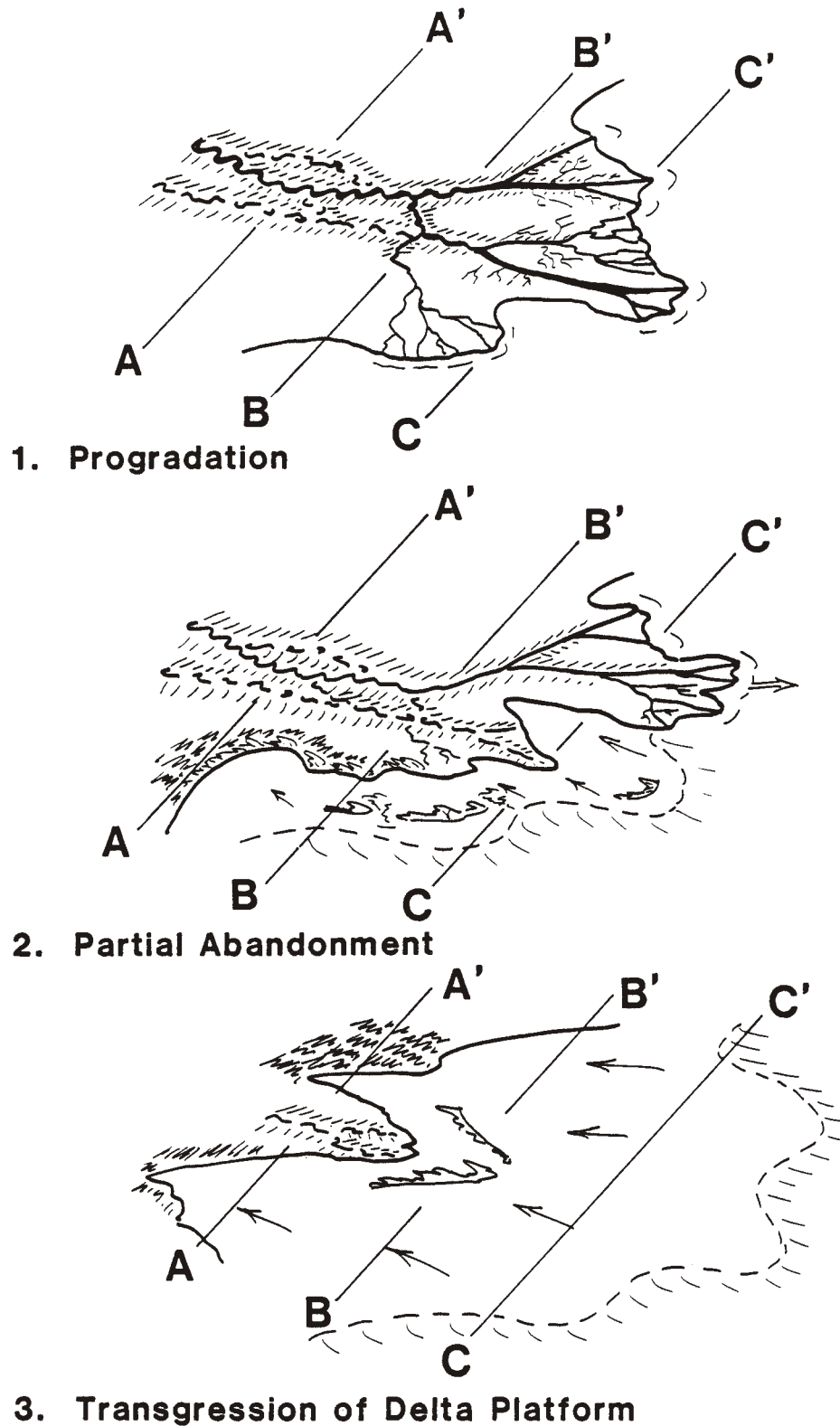


Figure 5.1. Diagram showing progradation of a delta followed by abandonment and marine transgression. Note positions of facies relative to the three cross sections, which are shown in Figure 5.2.

