

**OVERVIEW OF THE AUSTIN CHALK IN SOUTH TEXAS AND LOUISIANA:
Depositional Setting, Diagenesis, Porosity Evolution, and Play Development**

A ONE-DAY APPLIED SEMINAR – ONLINE FORMAT

**DECEMBER 7, 2022
(8:20 AM - 4:30 PM)**

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Prior to the recent economic downturn, the Upper Cretaceous Austin Chalk trend in south Texas and Louisiana captured high industry interest. With increased oil prices, activity is picking up in Karnes Trough in south Texas, as well as in Giddings Field. Other companies are likely to renew their exploitation of other established field areas like Pearsall, or Brookeland Field in East Texas. Interest in central Louisiana Austin Chalk also appears to be rebounding.

Geoscientists who explore in the Austin Chalk, or exploit existing Chalk fields, should possess a firm understanding of the Austin Chalk's regional depositional and diagenetic framework. This includes appreciating the influence of regional and local paleogeography, preexisting topography, and the underlying structural framework. They should develop a better appreciation of the various diagenetic pathways that affected Austin Chalk porosity and permeability evolution, since fractures are only part of the story.

I have a unique regional perspective on Austin Chalk deposition, diagenesis and porosity evolution, and play development. I conducted a regional outcrop and subsurface study as part of my dissertation at Rice University. This work included examining outcrops and quarries in central Texas (Austin and San Antonio), the Highway 90W road-cuts near Langtry, Texas, and road-cuts/outcrops in northern Mexico (Vallecillo area south to Monterrey). My subsurface data included conventional cores ranging in depth from 1000 feet to over 8000 feet, and deeper well cuttings (>16,000') from Louisiana.

After finishing at Rice, first at Exxon and later as a consultant, I continued my involvement in various Austin Chalk projects and core workshops. I have examined the classical deeper-water, giant Valhall Field chalk oil pool in the North Sea, as well as Cretaceous chalks elsewhere. I know well the depositional framework and diagenetic history of older Cretaceous Sligo, James, Glen Rose and Edwards carbonates in south Texas; diagenetic controls on their porosity evolution explain, I think, some aspects of Austin Chalk reservoir quality and higher production rates in south Texas.

My one-day seminar on the Austin Chalk in South Texas and Louisiana shares my regional perspective on this trend, focusing on its depositional and diagenetic framework, and on its play attributes. The Austin Chalk in south Texas is unique because of its depositional setting and initial mixed aragonite and calcite mineralogy. These factors produced porosity trends

decidedly different from the classical, pure calcitic North Sea chalks. Further, based on petrological observations from the underlying Glen Rose and Edwards carbonates in south Texas, fault-controlled diagenetic processes appear to explain some of the anomalously high production rates associated with Austin Chalk wells in and around the Karnes Trough. By implication, they may apply to other parts of the trend, including central Louisiana.

This seminar will be a power point presentation on ZOOM, accompanied by a digital (PDF) version of the notebook (in color) with over 350 images. Separately, I provide an updated, extensive bibliography listed in order by date of publication. The seminar starts at 8:20AM and normally takes 6-7 hours, with formal breaks for coffee and lunch, and other shorter informal breaks. The total length of the seminar depends, of course, on the amount of questions and discussion. Substitutions are permitted.

This seminar has been presented privately and in-house to twenty-six (26) companies: Cavalier Energy, Marathon Oil, Murphy Oil, Nexen Energy, Chesapeake Energy, Ensign Natural Resources, Black Mountain Oil & Gas, EnerVest Operating Company, ConocoPhillips, Apache, Torrent Oil, Blackbrush Energy, Noble Energy, Sunrise Exploration, Wildhorse Development, PetroQuest Energy, Verdun Oil, Devon Energy, EP Energy, Oakspring Energy, BP (Denver), Lewis Energy, El Toro Resources, Sedoro Energy Group, Sage Natural Resources and Magnolia Oil & Gas. It has been presented in other public venues fifteen (15) times. This will be the tenth (11th) online (ZOOM) presentation.

Most people I have presented to say that they wished they had taken this seminar before they got involved in the Austin Chalk play. Do not miss out on this overview and new ideas that could impact the evaluation of your areas of interest.

The registration form is below. Please contact Jeff Dravis at jdravi@rice.edu or at 713-819-4444 for more information or if you have questions.

TOPICS COVERED

INTRODUCTION

- Depositional Chalks Defined
- Controls on Porosity Evolution in Depositional Chalks
- Classical North Sea Chalks – The Standard for Comparison
- Diagenetic Chalks – What are They and How do They Relate to the Austin Chalk?

AUSTIN CHALK TREND IN TEXAS

- Introduction and Paleogeography
- Structural Framework
- Depositional Facies in south Texas and northern Mexico
- Porosity Evolution
- Role of Fractures in the Austin Chalk
- Austin Chalk Source Rock Potential
- Austin Chalk Water – Where is it coming from?

Austin Chalk Play Types and Case Studies

Pearsall Field

Giddings Field

Karnes Trough Area: Guidance From Other Fault-Controlled Analogs in S. Texas?

Play Types Related to Volcanic Activity

Brookeland Field Area

AUSTIN CHALK TREND IN LOUISIANA

Introduction and Paleogeography

Structural Framework

Play Types and Case Studies

Contrasts with the Austin Chalk trend in Texas

What to Expect in Louisiana

Remaining Questions and discussion

COMMENTS FROM PAST SEMINAR PARTICIPANTS:

“As you know, I took this course several years ago. Not only was it a good refresher, but you have added new slides and information and updates. The understanding of the Austin Chalk is still evolving so it is always interesting to hear someone’s perspective who has access to more regional data than we do.”

“Very concise and well-presented seminar. Excellent use of Austin Chalk analogs.”

“Great one-day seminar. Right balance between academic attributes and operational results. Lots of recent/relevant data was appreciated.”

“Excellent, as always. Clear and comprehensive instruction by a true expert.”

“Complicated topic. Any insight was helpful, but instructor was very knowledgeable on subject matter.”

“It was very helpful seeing pore to log scale and to field scale. Also, nice to see characteristics of different fields.”

Quality of Instruction: “Excellent”

“I really enjoyed the day. I don't get to spend many days just reviewing geology, so this was really special. Everyone in the office is talking about what was learned and we will be working hard to incorporate what you presented into our geological picture. I hope we can work on some projects in the future.”

“Thank you for the great lessons yesterday. Really appreciate all the work you have done over the years and combine that expertise into this class.”

“It was a privilege to take this course with you as an instructor!”

“I thought your Austin Chalk seminar was excellent!”

“Best one-day course I have had in a very long time.”

“I found it very informative and it significantly increased my knowledge base. Thanks again. I always enjoy your lectures.”

“I enjoyed your Austin Chalk presentation. Even though I have been working the Chalk forever, I always learn something new by listening to others’ thoughts and ideas. Thanks for your insights.”

“This seminar as extremely helpful for a regional overview of the Austin Chalk. Being new to the Chalk, it was relative and informative.”

Quality of Instruction: “Very polished and thorough. Great to be in a classroom setting again.”

“Thank you very much for the seminar yesterday. I thoroughly enjoyed it. As someone with absolutely zero experience in the AC or any chalk plays it was a great overview. This helped tremendously to get up to speed on the history and key drivers of this type of play”

Quality of Instruction: “Great. There was a good flow to the topics and you covered all aspects of the Austin Chalk.”

[Continued Below]

JEFF DRAVIS BIOGRAPHY

Jeff Dravis is a carbonate geologist whose consulting activities primarily focus on aiding in the discovery of oil and gas deposits, or enhancing their development once they are found. He also conducts applied carbonate training seminars for industry every year.

Jeff received his Bachelor of Science degree in Geology from St. Mary's University in San Antonio, Texas. He received a Master of Science degree in Marine Geology from the University of Miami's Rosenstiel School of Marine and Atmospheric Sciences in Florida. His thesis was entitled "Holocene Sedimentary Environments on Eleuthera Bank, Bahamas;" his advisor was Harold R. Wanless. Jeff then entered Rice University, Houston, Texas, to begin work on deep-water carbonates under the direction of Dr. James Lee Wilson. He was awarded a Ph D in Geology; his dissertation was entitled "Sedimentology and Diagenesis of the Upper Cretaceous Austin Chalk Formation, South Texas and Northern Mexico."

Dr. Dravis began his professional career with Exxon Production Research Company in Houston. There, he conducted applied research on carbonate facies, diagenesis and porosity evolution, but also headed up Exxon's worldwide training efforts in carbonates. This training included teaching in-house seminars, as well as leading combined modern (Bahamas and Florida) and ancient (Texas and New Mexico) carbonate field seminars for the corporation.

In 1986, Jeff started his own consulting practice in Houston. First, he founded Dravis Interests, Inc. to provide technical expertise and training in applied carbonate petroleum geology to the oil and gas industry. Later, Dravis Geological Services was created to handle all technical consulting projects. Jeff has been involved in **196** technical projects worldwide, working sequences ranging in age from Cambrian to upper Tertiary. He has presented **324** in-house and field seminars to industry, both on a public and private basis, including **73** modern field seminars to Caicos Platform in the southeastern Bahamas, and numerous field seminars to west Texas and New Mexico. His clients are domestic and foreign oil companies, both majors and independents.

Jeff is an adjunct Professor of Geology at Rice University, where since 1987 he has taught parts of courses, taken students into the field, and served on thesis committees. Since 2016, he also has taught the carbonate geology segment of the University of Houston's Professional Master's Program in Petroleum Geology. The last segment was presented in August and September of 2021.

Jeff Dravis
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10-9-2022

REGISTRATION FORM

**OVERVIEW OF THE AUSTIN CHALK IN SOUTH TEXAS AND LOUISIANA:
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December 7, 2022

NAME _____

TITLE (Geologist, Engineer, etc.) _____

YEARS OF EXPERIENCE _____

WORKING AUSTIN CHALK NOW? _____ WHERE? _____

WORKED CARBONATES IN THE PAST? _____ WHERE? _____

COMPANY _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

E-MAIL _____

BUSINESS PHONE () _____

REGISTRATION DEADLINE IS: November 18, 2022.

SEMINAR FEE: \$1,095 USD/person (Seminar limited to 10 people)

**MAKE CHECKS PAYABLE TO: DRAVIS GEOLOGICAL SERVICES
4133 TENNYSON, HOUSTON, TEXAS 77005**

MC/VISA/AMEX CREDIT CARD PAYMENT CAN BE MADE OVER THE PHONE.
BANK WIRE TRANSFER IS ALSO POSSIBLE AND PREFERRED.

ZOOM Meeting link and PDF's of lectures will be sent after payment is received.

Contact Jeff Dravis at 713-819-4444 or by email: jdravi@rice.edu