HGS Bulletin
Houston Geological Society
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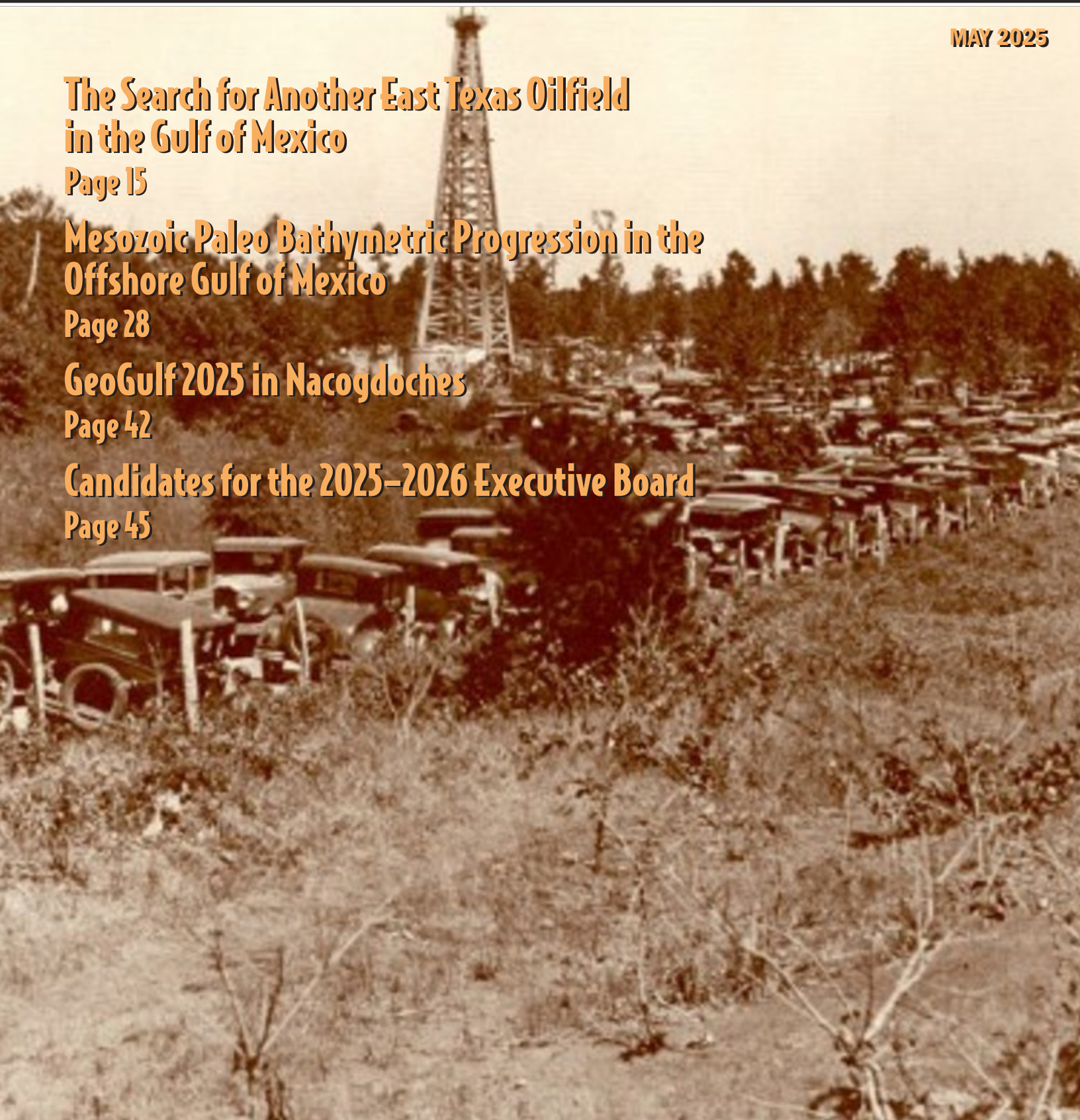

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NeoGeos	Austin Bruner	630-335-7849	austinbruner6797@gmail.com	D3
	Alexandra Bruner	678-591-9535	amstaub97@gmail.com	
Nominations	Paul Britt	281-494-3155	pbritt@texplore.com	P
	Walter Light, Jr.	713-823-8288	wthunderx@aol.com	
	Mike Erpenbeck	832-418-0221	mike.erpenbeck@hotmail.com	
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Engineering Council of Houston (ECH) Liaison	Sue Pritchett	281-451-6522	pritchett.sue@gmail.com	D2

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May 2025

In Every Issue

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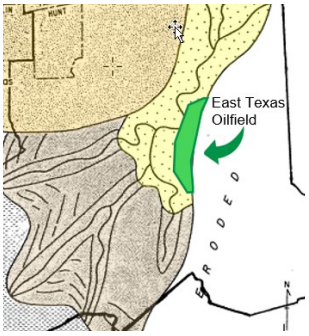
About the Cover: "Thousands crowded their way to the site of Daisy Bradford No. 3, hoping to be there when and if oil gushed from the well to wash away the misery of the Great Depression," noted one Kilgore, Texas, historian. Photo courtesy Jack Elder and Caleb Pirttelli, *The Glory Days.*

Technical Meetings

Features



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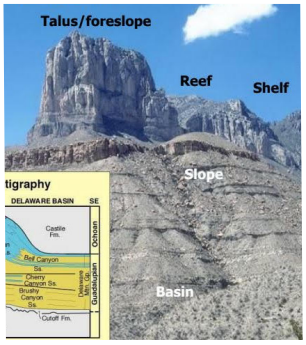

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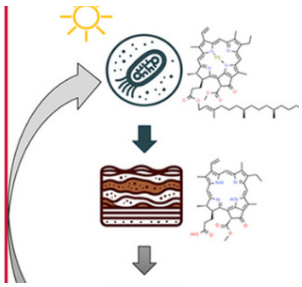
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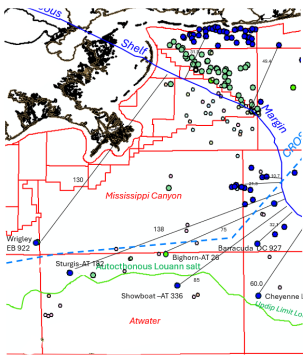

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HGS Elections and Membership Renewal

May is a busy month in the Houston area, with pleasant weather enabling us to attend various outdoor social activities at our parks and museums, participate in community programs and fundraising events, and, of course, enjoy gatherings with family and friends. May is also a busy month for the Houston Geological Society, as it is time to vote for your 2025 – 2026 HGS Board of Directors, renew your membership in HGS, and attend the numerous HGS meetings and short courses.

HGS BOARD OF DIRECTORS ELECTIONS

In accordance with HGS's Bylaws, voting for the 2025 - 2026 HGS Directors concludes at midnight on May 10, 2025. And, hence, since the May 2025 HGS Bulletin is published the first of the month, this gives everyone who has not voted as of yet 10 days to review each candidate's brief biography and statement of interest in serving on HGS's board and promoting HGS's mission statements and goals. As you read each candidate's documents, you will see a common theme of a strong interest in commitment to support HGS's goals of increasing membership, promoting innovative technologies and research in geoscience, enhancing networking events, developing mentorship programs, and maintaining a financially sound business plan. I encourage everyone to meet the candidates in person at upcoming HGS events and get to know them.

"It's time to vote for your 2025 – 2026 HGS Board of Directors, renew your membership, and participate in technical talks and short courses."

HGS MEMBERSHIP RENEWAL

HGS begins its annual membership renewal process during the month of May. Per HGS Bylaws, HGS is required to conduct business on a fiscal year basis, and, therefore, the deadline for HGS membership is June 30, 2025. However, we at HGS are fully aware that this is the start of summer vacations, and so we do have a grace period.

Why is it so important to renew your membership and pay your dues in a timely fashion? Succinctly, it is to enable the 2025-2026 HGS Board to develop a fiscally sound and financially sustainable budget for their upcoming year's activities. In order to organize and host HGS activities, HGS needs to plan ahead on HGS's revenues and expenditures to develop a financially sound budget for the fiscal year. Membership dues, sponsorships, and meeting registrations are three primary income-generating revenues. Conversely, renting conference facilities and catering for our meetings, conferences, and events are some of the primary expenses. As one might expect, these revenues and expenditures are not fixed monthly numbers but rather vary throughout HGS's fiscal year. Equally important for timely membership renewal is that it enables HGS to review its memberships and focus its attention on the interests and critical needs of HGS members. Thus, HGS will be better able to provide focused, informative networking platforms for the exchange of new advancements in our geoscience community.

Does HGS receive all its membership dues by June 30 of the fiscal year? The short answer is "No." In part, because members renew their membership when they return from summer vacation or possibly after they receive a gentle phone call from our membership committee. In part, because HGS has new members continually joining HGS throughout the year and submitting their dues. A brief shout-out to thank everyone for bringing in new members! To further answer this question, though, I reviewed the last 5 years of HGS's membership dues and found a few interesting and consistent trends. First, HGS receives approximately 50% of membership dues between the months of May through June and 70% by August. By October, HGS receives 90% of its annual membership dues. Thus, the HGS Board and Committee Chairs must compile and propose their budgets with knowledge from past year's data to develop a financially sound fiscal year budget.

UPCOMING TECHNICAL EVENTS

May 5 – 8, 2025, The Offshore Technology Conference (OTC) will be held at NRG Center, Houston, Texas. On May 8, HGS will join with OTC and SPE to host an "Energy Professional Hiring".

On **May 12, 2025**, the HGS Dinner meeting will host guest speakers, Jeff Spencer and Francesco Gerali, who will give a

From the President *continued on page 9*

Catie Donahue, HGS Vice President 2024-25
catie_donohue@murphyoilcorp.com

An Update From Your VP

Our May General Meeting marks a transition from our traditional dinner meetings to a more casual and interactive format. Over the past nine months, the Houston Geological Society (HGS) has worked hard to evolve our events to serve our members better, and we hope you've noticed the changes. We've consistently heard that members find the greatest value in in-person interactions, preferring more conversation and connection over lengthy lectures. With that in mind, we are excited to announce that the final HGS General evening meeting of this term will be more interactive with the presentation held at Spanish Flowers on Main Street in the Heights. It's fitting that Jeff Spencer will lead this meeting, reflecting on the challenges of being an Oil Historian in modern times. As professionals in the energy industry, we know we must react quickly to changing environments, and as an organization, HGS recognizes the need to stay dynamic and flexible in the face of ongoing challenges as well. A historical review can provide all of us with the context we need to face budget constraints, changing demographics, and fast-paced economic cycles.

We've consistently heard that members find the greatest value in in-person interactions, preferring more conversation and connection over lengthy lectures.

My term as Vice President is wrapping up and I want to reflect on a few of the efforts the Technical Committee undertook. First, for members who don't know, the Technical Committee comprises representatives from five different groups: North America Exploration, International Exploration, Environmental & Engineers, New Energies, and the Private Equity Committee. This group coordinates and solicits the technical content of the HGS. For those of you who would like to influence the topics that are presented, please get in touch with the HGS Vice President to join the committee. I assure you, it does not need to be a large time commitment, but direct input from our membership is critical.

This year, and in recognition of the limited growth in participation at our technical talks, our committee focused on a constant critique we hear: meetings are too long, too expensive, often don't include support for career development, and don't recognize our rapidly changing industry behaviors. As a committee made up of active professionals, we understood the need for change, while also preserving the legacy and value that has built the reputation of the HGS.

This year, we successfully streamlined our evening meetings, shortening their length to accommodate better members facing long evening commutes, and bringing in sponsors to help reduce costs where we could.

Starting in January, we reintroduced lunch meetings, rotating locations to make them more accessible. These lunch gatherings offered focused technical content at a lower attendance cost and were more compatible with our members' busy schedules and the need for evening work/life balance. Attendance and feedback have been overwhelmingly positive, and we are excited to continue this format in the fall.

Additionally, we have diversified our presentation styles: for example, in December, we hosted a very successful career development panel discussion, which addressed employment uncertainties and provided support for developing an HGS mentorship program in the near future (more details coming soon).

Beyond logistics, we expanded our programming to include a broader range of topics, from international and domestic technical work to career development and broader energy industry issues. I wanted to highlight these improvements because they resulted directly from member feedback collected through our various surveys. Please fill them out when you see them or share your thoughts with an HGS officer directly. This is the true strength of local organizations — to listen to members and act upon their needs. It has been an honor to serve as Vice President of HGS. As I wrap up my term, I leave you with two thoughts: please continue to share your feedback, and I hope to see you all at our last evening meeting on May 12th at 5:30 PM at Spanish Flowers on Main Street!

Ted Godo, HGS editor 2024-25
editor@hgs.org

Looking Back

Greetings, fellow HGS members, This is the second-to-last *Bulletin* for me as your editor. I thought I would summarize some of the themes and "advice" that have run through the articles this past season. In September 2024, the first issue, I introduced myself and offered four things I've learned over the 46 years I've been in the industry.

1. "Have a passion for your craft. " I mean, attempt to learn something every day, not only in your specialty field but also in the fundamentals of other specialties. These specialties include, but are not limited to, geochemistry, basin modeling, geophysics, rock properties, paleontology, and mud logging descriptions. Understanding the assumptions of your other team members' specialties will help you guide your model more effectively. But try not to fall into the dogmatic trap.

2. Always ask questions, no matter how basic they may seem to you, as that's where you can advance your learning the most

3. Are we providing opportunities for others to express their opinions and encouraging them, especially when they perceive things differently? Collaborating together helps everyone learn.

4. Don't forget dry holes, not just your company's but also those drilled by others. Dry holes will provide critical data, not only at the targeted level but throughout the well. That's where other play ideas or missed opportunities can also lie.

In writing the feature article this month, I realized some things I hadn't anticipated. The story I wrote covered the time frame from 1930 to 1973 (when I began my geology undergrad degree). This 43-year period is nearly equal to my career span, or one generation. The advancements made during this generation were remarkable. More importantly, I felt frustrated while researching this article; I wanted to find original references on source rock presence in what we now know are several intervals in the Mesozoic. I did not consider that many of the exploration wells drilled in the early 1930s were "randomly" drilled; or based on a "promoter" who generated his money by overselling shares of an oil well and then hoping for a dry hole. However, many bona fide oil companies used technology throughout the 30s through the 60s. But there was limited documentation of source rock, except for oil found in the Smackover formation, with the assumption that it was the primary source. After all, it lies at the bottom of the section, so what else could charge it unless the presalt formations had a source rock? During that time, wells penetrated the presalt Eagle Mills formation as Shearer (1938) defined, but the sediments were non-source rock and consisted of dry continental deposits.

Dry holes will provide critical data, not only at the targeted level but throughout the well.

So, out of desperation, I took my own advice and contacted other experts in the field who might provide insight into my difficulty in finding documentation. Steve Walkinshaw of Vision Exploration LLC, an onshore Mississippi and Gulf Coast expert, told me that there was perhaps a blind spot that I had not considered. In the early days, shallower wells only penetrated fluvial to marginal marine rock, so they didn't see the deeper water source rocks. But Steve said something else, which I have highlighted: experts informed him during his early career that the Smackover formation was the sole source rock located onshore. Steve said he highly respected these mentors but "was skeptical" of the idea. Maintaining a healthy level of skepticism, complemented by thorough questioning and dialogue, is essential for achieving significant breakthroughs in understanding.

This month, HGS is offering two short courses. Each course provides an opportunity to enhance your subject knowledge. Even if it's not your specialty, you can learn some fundamentals that others use in their craft; a better understanding of their assumptions will improve collaboration when refining a model. On May 19th, you can attend a course titled "Carbonate Reservoir Characterization with Lucia Petrophysics. " This course offers rock typing and integrates geology with petrophysical techniques. The other course this month is on May 29th, which you can attend in person or via Zoom, titled "Analytical Organic Geochemistry for Energy and Environmental Applications." You can sign up on the HGS website. ■

Until next month, best wishes to you all.

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From the President

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presentation on "The Challenges of an Oil Historian in the 21st Century". This meeting will be held at the Spanish Flower, located in the Heights.

On **May 19, 2025**, HGS will host a continuing education course on "Carbonate Reservoir Characterization with Lucia Petrophysics". Dr. Bill Raatz will give the course and will be held at Occidental Petroleum. The course will include lectures and exercises on reservoir characterization of carbonate systems and will cover topics on critical principles for geological modeling.

On **May 29, 2025**, HGS will host a continuing education course on "Analytical Organic Geochemistry for Energy and Environmental Applications"" Dr. Jagos Radovic, Director of the Center for Petroleum Geochemistry at the University of Houston, will give the course, which will be a half-day in-person and Zoom class.

Please visit the HGS website for more information on these and additional upcoming events.

I close my letter with a quote from Benjamin Franklin: "You may delay, but time will not." Please do not delay casting your vote for HGS's 2025-2026 Directors! In addition, please log onto the HGS website and renew your membership today!

I look forward to seeing you at our May HGS events!

We Are The HGS

Katy Sementelli , HGS member since February 2025

Originally from Erie, Pennsylvania, Katy found her calling in the most natural of classrooms—Presque Isle State Park, a sand spit extending into a lake on a remnant glacial moraine. As a child, the surroundings of Lake Erie were her playground and sanctuary, where she spent countless hours swimming, wandering, and imagining. It wasn't until adulthood that she began to question the origins of this unique landscape. A public forum about break-wall construction, followed by a life-changing talk by Dr. Orrin Pilkey, sparked her passion for geology. "Just like that guy, I wanted to be a geologist!" she recalled. That spark led her to Edinboro University of Pennsylvania, where she officially began her geology journey, always carrying Presque Isle in her memory.

Encouraged by friends, Katy joined HGS to become part of a broader community, expand her network, give back, and contribute to the legacy of geosciences in Houston

Katy's fascination with clastic stratigraphy evolved into a full-fledged love for sequence stratigraphy during her graduate studies at the University of North Carolina at Chapel Hill. Working with Dr. Lou Bartek on a project funded by the Office of Naval Research, Katy dove into remote sensing tools and seismic data analysis during the summer before her classes even began. On her very first day, her advisor handed her a copy of Siliciclastic Sequence Stratigraphy in Well Logs, Cores, and Outcrops: Concepts for High-resolution Correlation of Time and Facies (Methods in Exploration Series) by John Van Wagoner which she devoured in one morning—cover to cover! "It made so much sense to me," she said, remembering that moment of clarity. Katy chose to focus on stratigraphy and sedimentology over a traditional outcrop-based field study, wanting to explore technology and innovative techniques. At the time, she didn't realize these tools were commonly used by subsurface geologists, particularly in the oil and gas industry.

That foundation set her up for a dynamic and technology-forward career, starting at ExxonMobil, where she got to meet and learn directly from the experts she once studied. Throughout her impressive career, Katy has moved between companies —including Hess Corporation, BHP, Woodside Energy, and Apache— and projects with purpose, gaining diverse experience and building strong professional teams along the way. Her favorite role? Working on a centralized task-force-style geoscience team that supported various business units—a chance to tackle complex problems and truly feel the impact of her work. She holds a special fondness for the Jeanne d'Arc Basin offshore Canada, calling it both professionally satisfying and scientifically fascinating. She even worked with top ichnologists like Dr. George Pemberton and Dr. Tim Demko. Of course, not every asset was smooth sailing—she found working on non-operated projects and research teams uniquely challenging due to differing priorities and ambiguity, but she embraced those moments for the growth they brought.

Outside of geology, Katy brings the same energy and heart to her community work and personal life. An avid athlete and triathlete, she now channels her love of movement into guiding blind athletes in races, where they swim tethered and cycle on tandem bikes. "It is the best feeling to be next to someone when they cross a finish line," she said with pride. She also volunteers with Back on My Feet, supporting individuals in recovery or facing housing insecurity through early-morning runs. Recently returning to ExxonMobil, she describes it as a "full-circle moment" and feels honored to be part of its legacy again. As a member of the Houston Geological Society, she values the sense of community and was humbled by the strong reception to her recent talk at HGS General Lunch, saying, "I hope everyone enjoyed the discussion—I know I did!". ■

We Are The HGS is a series that highlights the careers and contributions of HGS members with the intention of building community. Would you like to be featured in We Are The HGS? Send a note to editor@hgs.org.

Energy Professionals HIRING EVENT

May 8, 2025
NRG Park, Houston TX
10:00 AM – 2:00 PM

Organized by CAN - the SPE Career Advancement Network – SPE Gulf Coast Section

Energy Professionals HIRING EVENT

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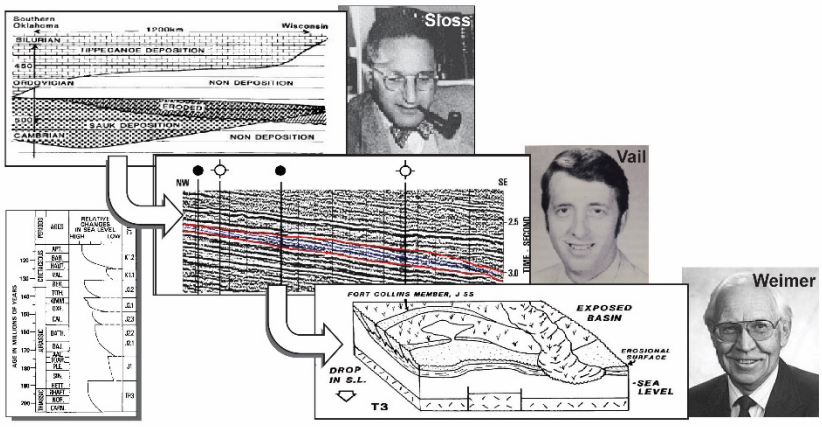
Announcement and Call for Papers



With the recent passing of Pete Vail and Bob Weimer and the approaching 50th anniversary of the publication of AAPG Memoir 26, not to mention the recent retirements of the 1st generation that grew up with Memoir 26 and the rise of new generations of practitioners and innovative techniques, it is a propitious time to take stock of sequence stratigraphy in particular and applied stratigraphic analysis in general: where it came from, where's it going, and what's it good for…and to pass along hard-won practical lessons.

This year's conference features a hybrid program of short talks by practitioners who worked with Vail, Weimer, and Sloss, as well as those who have applied and expanded their concepts, hands-on exercises, discussions, case-study talks, and panel discussions that illustrate each of four focus areas:

- **Historical Perspectives** on the development of present-day integrated stratigraphic analysis since Sloss (e.g., incorporation of high-resolution age control and seismic, expansion to non-marine systems, etc.).
- **Regional- to basin-scale** concepts and applications (e.g., cycle chart uses and abuses, tectonic influences, systematic changes in reservoir-target age across a basin, etc.).
- **Play- to field-scale** concepts and applications (e.g., incised valleys, resource plays, sub-unconformity plays).
- **Practical applications** and tools for energy and other resources (groundwater, GCS/CCUS, H2 storage) and planets.

This program will offer opportunities to examine classic data sets in a series of collaborative exercises, affording a shared experience to focus discussion of foundational concepts…and assumptions…considering more than 50 years of application, experience, and innovation. We welcome industry and academic practitioners who have tested, applied, improved, and expanded these concepts, students and practitioners who would benefit from understanding their development and application, and researchers looking for new opportunities to advance these concepts.

We invite a diverse set of papers illuminating the history of integrated stratigraphic analysis and the near-term and long-range future, especially those that explore the practical application of such analyses to hydrocarbon and critical mineral exploration, groundwater, geothermal, and emerging resource exploitation, and the interpretation of the geological history of Earth and Mars. Student posters and presentations are encouraged.

Organizing Committee - Conveners

Kevin Bohacs: bohacsk@gmail.com; KMBohacs GEOconsulting LLC, Houston, Texas
Art Donovan: art.donovan@tamu.edu; Professor & Director UROC, Texas A&M University
Jack Neal: jeneal2022@gmail.com; Consultant, Houston, Texas
Keith Shanley: keith_shanley@oxy.com; Geological Consultant, Oxy Petroleum, Denver, Colorado
Steve Sonnenberg: ssonenberg@mines.edu; Colorado School of Mines, Golden, Colorado

Important Dates and Deadlines Perkins-Rosen Research Conference 2025:

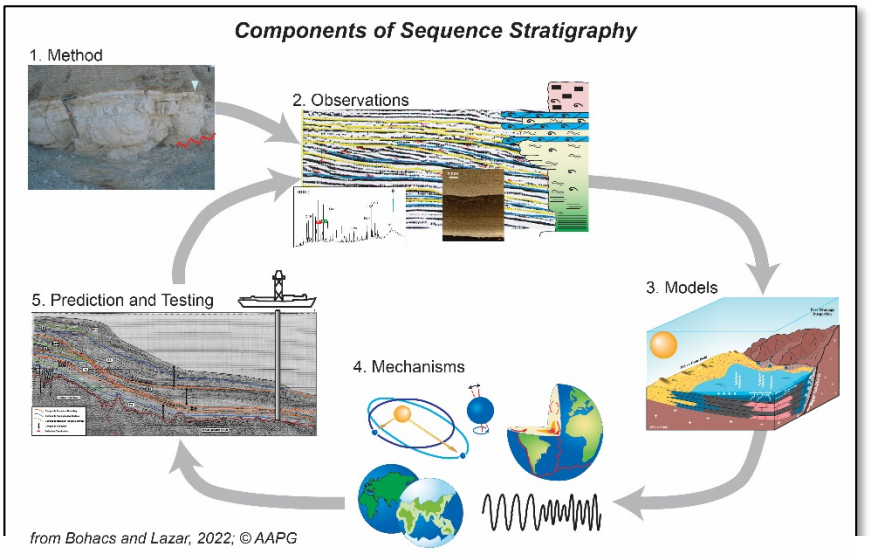
June 1, 2025	Expression of interest: Provide title of presentation and brief abstract
June 30, 2025	Preliminary Program Announced
August 4, 2025	Abstracts, Extended Abstracts and Full papers due
October 3, 2025	Final revised manuscript and illustrations due
November 17-19, 2025	Conference in Houston

Abstract submission opening soon at: https://sepm.org

Venue to be announced soon at: https://sepm.org

The GCSSEPM Foundation supports and follows the SEPM Code of Conduct

For more information, or to sponsor the Conference, contact John R. Suter, Executive Director, The GCSSEPM Foundation at gcssepm1@gmail.com.



The Search for Another East Texas Oilfield in the Gulf of Mexico

By Ted Godo

This feature article begins by examining Humble Oil's origins and its involvement in the 1930 discovery of the Supergiant (6BBO) East Texas Oil field. The focus will be on Humble Oil's formation in 1911 and its evolution over the next 65 years, culminating in the 1972 rebranding as Exxon. The article will also outline the oil industry's journey following the discovery of the East Texas field, detailing the exploration of the prolific Woodbine/Tuscaloosa sandstone (W/T) reservoir from East Texas to offshore Florida. During the 1940s through the 1960s, numerous oilfields were discovered within the W/T reservoir package in Louisiana, Mississippi, and Alabama, with several major oil companies involved in these discoveries. In 1973, new acreage access following the W/T trend into offshore Florida waters became available in federal lease sale #32. In federal waters lay the known yet untested large Destin Dome anticline, which also became available for leasing. The Destin Dome is a broad, four-way dipping anticlinal feature nearly 40 miles long and 12 miles wide, with a relief of over 3,000 feet above Lower Cretaceous rocks. In 1973, Exxon submitted a significant bid for six OCS federal blocks situated over the crest and northeast portion of the Dome to explore the pinch-out of Tuscaloosa-Woodbine sandstones. Exxon secured winning bids against several other competitive offers, totaling $632,000,000. Adjusted for inflation since 1973, this bid would be worth over $4.6 billion in 2025. Exxon drilled seven wells on five of the six bid blocks, primarily targeting the W/T reservoir, which has a similar pinch-out to that in the East Texas oilfield. They also drilled deeper wells to investigate the lower Cretaceous sandstones. However, none of the wells discovered hydrocarbons, including the seventh well drilled to Louann salt, which tested the Smackover and Norphlet formations. Since these failures, Exxon has not drilled any further wells in the Eastern Gulf of Mexico.

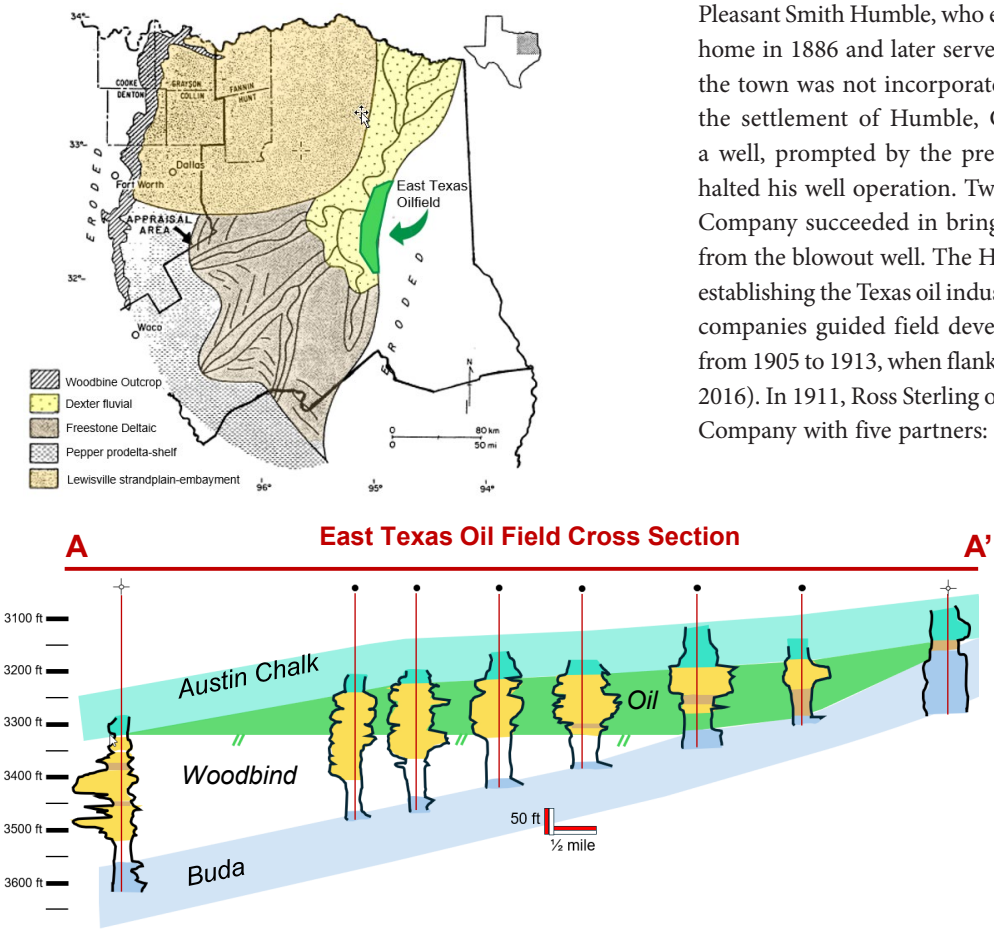


Figure 1. *This is a paleogeographical map of the Woodbine Formation in northeast Texas. - Modified from Foot (1988). Below is a cross-section through the East Texas oilfield*

BACKGROUND ON HUMBLE/EXXON/EXXONMOBIL

Humble, Texas, was named after one of the founders and settlers, Pleasant Smith Humble, who established the first post office in his home in 1886 and later served as justice of the peace. However, the town was not incorporated as a city until 1933. In 1902, in the settlement of Humble, George Hart commenced drilling a well, prompted by the presence of escaping gas. A blowout halted his well operation. Two years later, Higgins Oil and Fuel Company succeeded in bringing in a large gas well half a mile from the blowout well. The Humble field played a crucial role in establishing the Texas oil industry, as both major and independent companies guided field development, centered on the caprock from 1905 to 1913, when flank oil production was initiated (Blum, 2016). In 1911, Ross Sterling officially established the Humble Oil Company with five partners: Walter Fondren, Charles Goddard, Will Stamps Farish, Robert Lee Blaffer, and Harry Weiss. A few years later, Humble Oil built a Baytown refinery, forming Humble Oil and Refining Company, and continued to grow rapidly, but still required additional capital. Enter Rockefeller's Standard Oil, which was not active in Texas but saw potential in Humble. In 1919, an agreement was reached to sell 50 percent of Humble to Standard for $17 million, with the requirement to preserve Humble's high level of independence, as Humble

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continued to explore in Texas. The Humble brand became ubiquitous in Texas and much of the country, but Standard promoted its Esso or Enco brands featured in Humble stations in some locations. By the 1940s, Humble Oil had become the largest domestic oil producer, a position it held through the 1960s. By 1972, a decision was made to rebrand under a single name, Exxon. In 1999, Exxon merged with Mobil Oil, now known as ExxonMobil.

THE EAST TEXAS OIL FIELD

With success in the Humble Oil field and its Baytown refinery, Humble Oil expanded its regional exploration efforts northward into Eastern Texas. In the late 1920s, Humble Oil began mapping the Woodbine in Gregg and Rusk Counties. The Woodbine formation has been a well-known producing field in East Texas since 1923 (Powell field, 1923; Boggy Creek field, 1927). In 1928, Humble leased 1500 acres in Rusk County that would ultimately become part of the supergiant oilfield (Barrow, 2005). The late L.T. Barrow was the Chief Geologist at Humble Oil in the late 1920s. Another Humble geologist named G. Mose Knebel had an idea in 1929 of a potentially large trap in the Woodbine sandstone. Knebel reported to Barrow, saying, "Don't forget the possibility of a big oil field where the Woodbine pinches out on the west side of the Sabine Uplift." "It is possible that the oil may be present on structures, including noses, but it may also be trapped along the pinchout" (Larson, 1959; Barrow, 2005) (**Figure 1**). That prescient view turned out to be correct in describing the supergiant East Texas Oil field.

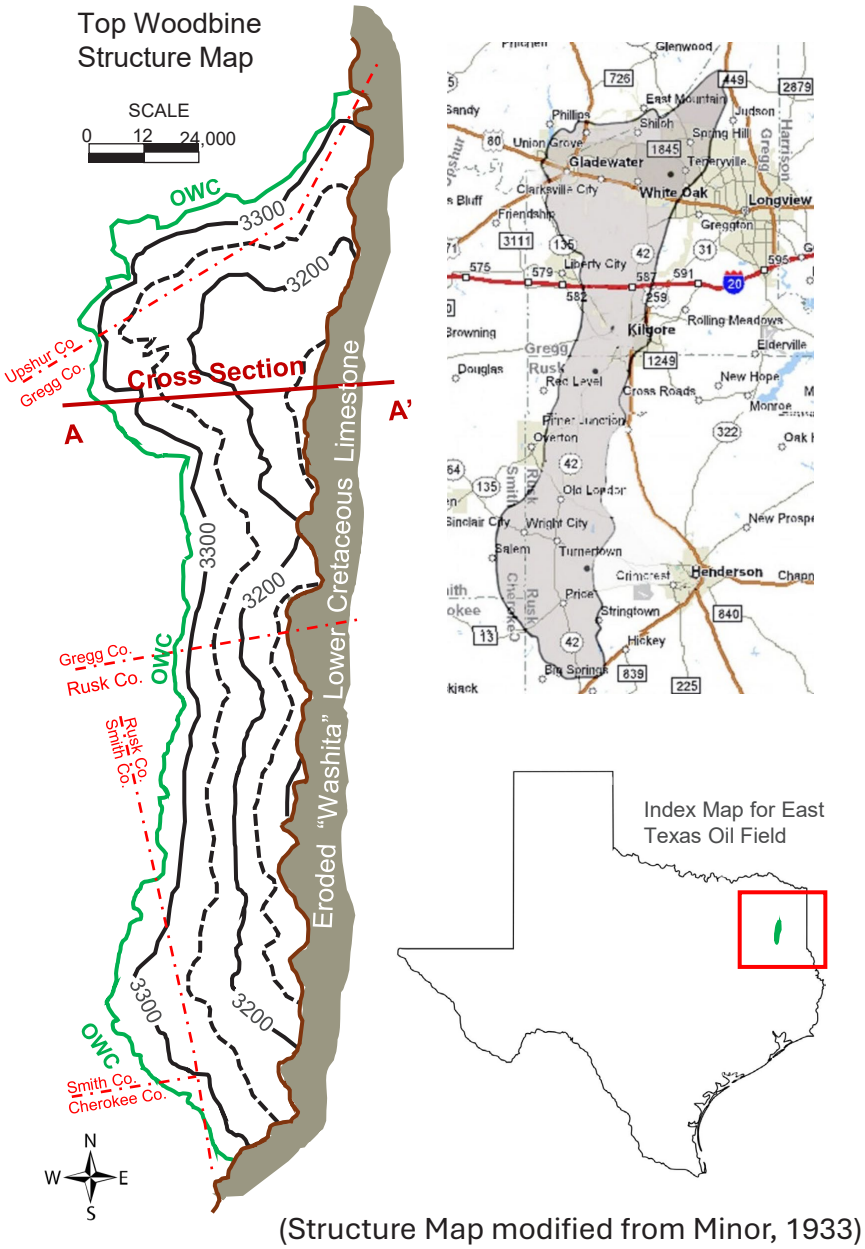

Figure 2. *A structure map on the top of the productive Woodbine formation in East Texas Field. The inset roadmap shows in a gray shade the large extent of the field today*

The East Texas supergiant oil field, so named, covers parts of five counties (Gregg, Rusk, Upshur, Smith, and Cherokee counties) (**Figure 2**). The field covers approximately 132,000 acres and is 42 miles long (N-S) and averages five miles wide (Halbouty, 2005). No other companies drilling the East Texas Oil field in different counties could fully comprehend the size of the field area, as oil companies typically focused on smaller parts of the entire field. According to Halbouty (2005), the Supergiant field is classified as a discovery made through random drilling. He further describes the field as lacking any surface structural or geomorphic features and having no direct signs of petroleum nearby.

Interestingly, I could not find information in the early articles on the source rock, maturity, and migration of oil into the nearly 6 billion barrels of the East Texas Field (ETF). It puzzled me at first glance to see how shallow the oil-filled sands are in ETF, and I wondered if the source rock had a lateral charge or came from the deeper, lower Cretaceous or Jurassic sections. Alfred C. Moore made the earliest reference to a source rock within the Tuscaloosa formations. In his notes to other workers, he suggested the TMS (Tuscaloosa Marine Shale member) may be the "source bed" of oils trapped in the Tuscaloosa sands (Hackley, 2020). Koons (1974) found that oils in the Tuscaloosa-Woodbine reservoirs are likely sourced from more deeply buried,

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downdip marine Tuscaloosa claystones. By 1994, Wescott and Hood published a paper stating that the source rock was indeed within the Upper Cretaceous Woodbine Group (TMS). Wescott and Hood (1994) further proposed a model to charge the East Texas Field by suggesting a long-range migration through Woodford's Harris sandstone member (**Figure 3**). The story of the discovery of the East Texas Field continues next.

Historically, there have always been other "characters'—wildcatters, speculators, and promoters—besides established oil companies like Humble, who were looking to get rich. Enter Columbus Marion Joiner, also known as "Dad" Joiner, one such character. Dad Joiner had seven weeks of formal education; despite this, he practiced law in Tennessee and served in the state legislature. Joiner then moved to Oklahoma and later to Texas, where he became a wildcatter searching for oil. A friend, A.D. "Doc" Lloyd (real name Joseph Idelbert Durham), a self-styled geologist, informed Joiner that oil would be found in Rusk County in the Woodbine formation, despite the seventeen dry holes in the county (Hunt, 2005). Joiner drilled two wells in Rusk County in 1927 and 1928 but abandoned both sites. The third well was the Daisy Bradford #3, but drilling did not commence due to issues with skidding the well to the new location and insufficient funds to proceed. Some additional promotions were necessary, and drilling did not begin until mid-1930. On July 20, 1930, a core contained nine inches of Woodbine characterized as "hard crystallized sand" with some oil shows (Hunt, 2005). Painstaking and slow operations of well reaming and additional drilling occurred until October 2, 1930. On that day, people from all around heard of the initial oil shows in the core and wanted to watch as the final bailing or removal of the accumulated rock cuttings might reveal whether oil would flow. It is reported that over 8,000 people gathered around the well (see the front cover). However, the well needed stimulation or swabbing to bring in oil. This occurred on Sunday, the next day, when church services reduced the crowd to about 5,000. After swabbing, Daisy Bradford #3 produced oil to the surface at a flow rate of 6,800 barrels daily. Humble Oil, of course, closely monitored the progress of Joiner's Daisy Bradford #3, particularly between the initial oil showing in July and the actual completion of the well on October 3. Humble leased over 12,000 acres in East Texas for approximately $250,000 and continued to lease additional land (Larson, 1959). Humble Oil benefited significantly from the East Texas Oil Field, emerging as a major player in the oil industry. This stratigraphic trap at the East Texas Field would also lead Humble Oil, nearly forty years later, to Alaska's North Slope, where they found a similar stratigraphic truncation trap. Partnering with Atlantic Richfield, they drilled the discovery well for Prudhoe Bay on March 12, 1968.

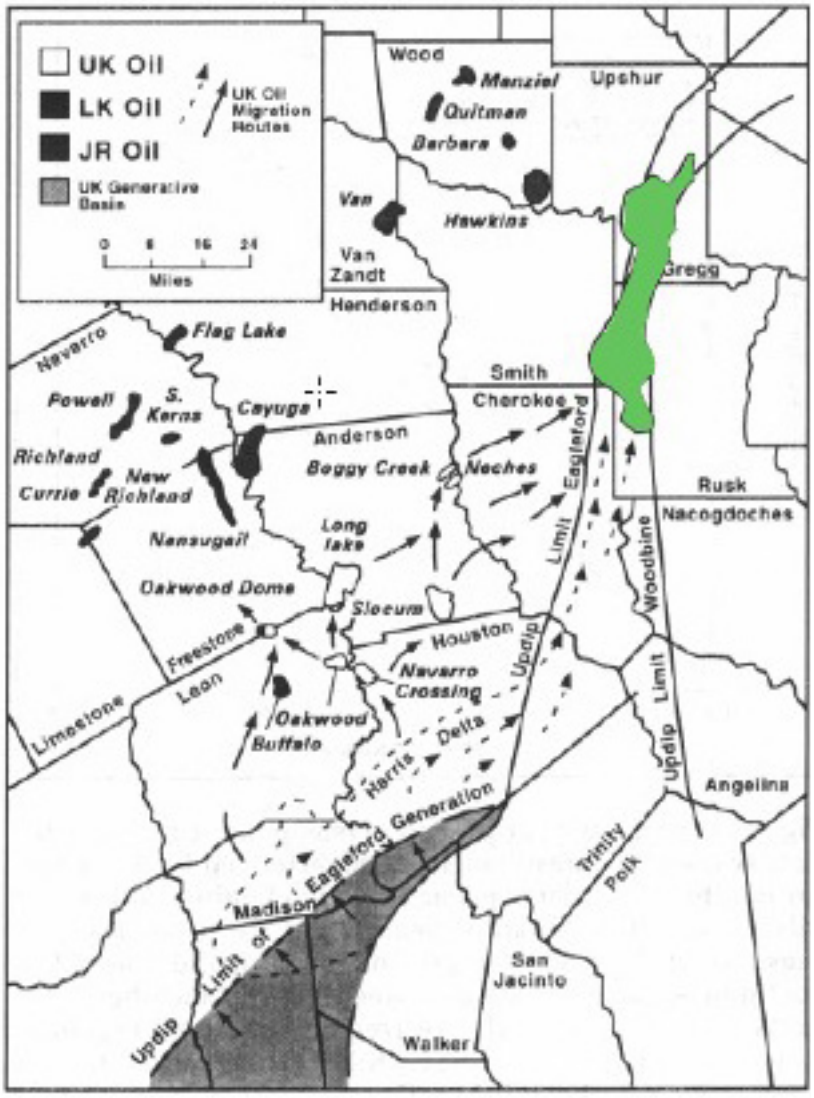

Figure 3. *The dark gray shaded area shows the thermal kitchen that matures the upper Cretaceous source rock with the arrow showing the long migration through the Woodbine sandstone up to its culmination trap in the East Texas oilfield – modified from Wescott and Hood, 1994*

PUSHING EASTWARD, DEVELOPING WOODBINE / TUSCALOOSA DISCOVERIES INTO FLORIDA

The Tuscaloosa reservoir in the states east of Texas is laterally equivalent to the East Texas Woodbine reservoir. Between 1940 and 1945, most oil fields were discovered in Mississippi and Alabama, with significant reserves found in the Upper Cretaceous, Woodbine, and Tuscaloosa Groups (Cockrell, 2005). Examples of named oil fields include Brookhaven (1942), Cranfield (1943), Carthage Point (1943), Mallaleiu (1944), Delhi (1944), and Baxterfield (1944). See summaries by Zebal, 1946; S. G. S., 1946; Womak, 1950; Frascogna, 1957; Weaver, 1966; and Powell (1972). In 1942, it was reported

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that "geophysical exploration of all types continued on a large scale, including the use of seismographs, gravity meters, and magnetometers, along with core-drill parties" (MGS, 1943). The Humble Oil Company was the largest user of all these geophysical instruments (MGS, 1943). During the early 1940s, Humble Oil was also the largest leaseholder in Mississippi and significantly expanded through leasing efforts into Alabama and Florida, acquiring approximately 1.5 million acres (MGS, 1943).

Primarily as an aid in keeping production ahead of the needs of our war effort, the United States Geological Survey, under an appropriation by Congress, conducted regional stratigraphic, paleontologic, and sedimentary studies in many areas that appear to hold possibilities for oil and gas accumulation (Applin, 1944). Several USGS and other papers were published between 1944 and 1947 on exploring Florida, Georgia, and Alabama (Applin, 1944; Applin, 1945; Cushman, 1946; Applin, 1947). It also helped motivate oil companies to expand their search for oil into Florida, especially with the recent discovery, Florida's first, by Humble in 1943. As a "sidebar" comment on this Humble discovery, it was interesting to learn that the Florida Governor and legislators were desperate for their state to become a producer and offered a $50,000 bounty for making the first discovery. The $50,000 reward in 1942 would equal nearly a million dollars in 2025. Humble Oil accepted the $50,000 prize offered by the state, added $10,000, and donated $60,000 ($1.2 million today) equally between the University of Florida and Florida State College for Women. Humble's discovery field is in South Florida's Collier County, known as the Sunniland field. The Cretaceous Sunniland limestone is a self-contained source and reservoir system of lower Albian age, sandwiched between two anhydrite layers.

After the war ended, Humble continued its exploration in Alabama. In 1947 and 1948, Humble implemented a core drilling program and identified faulting in the Pollard, Alabama area. This led to Humble's discovery well, which opened the Pollard field in 1952. The Pollard field extracts oil from the Moye sand in the Lower Tuscaloosa marine layer.

Exploration progressed southeast into Florida. Applin (1947) officially defined the Atkinson formation in Florida and Georgia as having equivalents to the Woodbine, Eagleford, and Tuscaloosa formations, extending from Texas to Florida (**Figure 4**). In 1947, Magnolia (later Mobile) drilled an offshore well in Florida State waters to a depth of 7,019 ft to test the Atkinson sandstone reservoirs. They discovered a well-developed, porous lower massive sandstone member well-formed in the well, but it was wet. In 1956, Humble Oil also drilled in Pensacola Bay, on Florida State lease 833, targeting the Atkinson sand, and encountered correlative porous and wet sands in the lower massive member.

Regional studies published in the 1940s and 50s indicated that a second source of sandstone derived from the exposed Appalachian Mountains during the deposition of the Tuscaloosa / Woodbine sands. This finding extended the likely presence of sand further east and south (**Figure. 5**). Operational challenges related to increased water depth and access to offshore federal waters created an artificial barrier to the continuation of the Tuscaloosa/Woodbine play. Major oil companies in the 1960s included Humble Oil (later Exxon), California Company (later Chevron), Carter Oil (later merged with Humble), Pure Oil (later Union 76), Atlantic Refining (later ARCO), and Gulf Oil.

These larger oil companies had the resources and personnel to advance exploration technology throughout the 1960s and early 70s. The development of common depth point (CDP) seismic techniques, longer streamer cables, and digital computer

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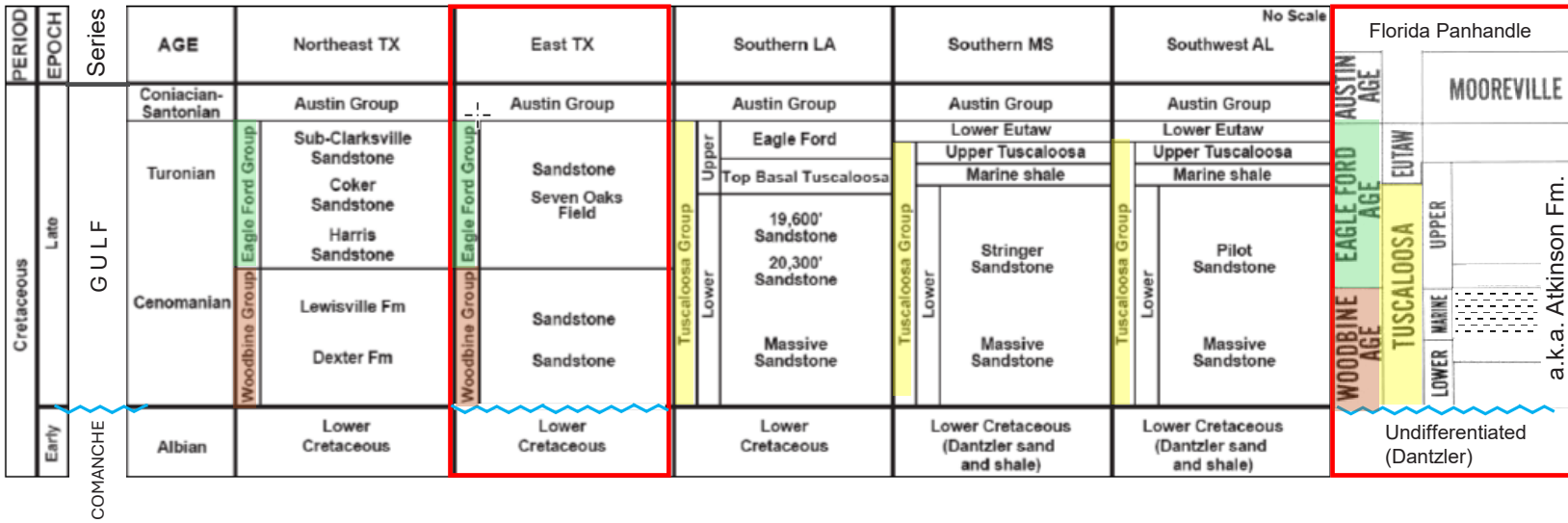

Figure 4. *A stratigraphic chart of the Cenomanian-Turonian Eagleford/Woodbine/Tuscaloosa/Atkinson formations – modified from Woolf, 2012; Applin, 1955, Harbans, 1964*

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processing significantly enhanced the ability to map, especially for deeper visualization. In 1973, offshore lease sale 32 in the Eastern Gulf of Mexico opened access to prospects like Destin Dome. Many in the industry regarded the Destin Dome as the most promising OCS area (second only to the Gulf of Alaska) (Priest, 2022).

In researching this article, I could not find adequate papers that cited source rock presence and how fields were charged (other than the Jurassic Smackover). Examples of potential source rocks were first identified by Barton (1934). Barton stated that the gravity of oil is controlled by its geologic age and depth of burial. I scratched my head, whispering "OK" on that one and moved on to Haeberle (1951). Haeberle agreed with Barton but also modified his premise by saying that there "seems to be a relationship between formations having the most similar depositional history and also having the most similar average oil gravities. " Moving forward in time, Forgotson (1954) noted that even though no oil was found in the Cotton Valley sandstone (Uppermost Jurassic to Cretaceous), there were also black shale intervals. These black shales, "rich in organic remains are an adequate source for hydrocarbons. " It was getting a little better, I thought. Reinhart (1961) acknowledged Forgotson's 1954 work but also stated, "the Smackover [source rock] has always held major interest as the prime target [and source rock]." Lastly, Dinkins (1961) expressed that the "favorable source facies to reservoir facies relationship are present throughout the Smackover, Haynesville and Cotton Valley sediments. "

I wrote to my friend Steve Walkinshaw (of Vision Exploration LLC), asking why I could not find articles on source rock identification for these fields in the Gulf Coast States. I knew that Steve understood the history and story of source rock identification, and if anyone knew, it would be Steve. Steve wrote back and said that when he started full-time work in the oil business in 1981, he was informed by an experienced geologist that, at least in Mississippi, only one source was present, and that was the Smackover. Steve held these experienced geologists in high esteem, but "was skeptical from the get-go. " A note here for our readers: this healthy skepticism is a key theme the editor of this *Bulletin*'s term year has emphasized for all geologists to be aware of. Steve continued, "The reason most petroleum geologists in Mississippi didn't recognize these numerous Mesozoic source rocks was that they only transitioned from fluvial to marginal/open water marine facies and were only buried deep enough to reach thermal maturity in the rather sparsely drilled southwest part of the State.

Remember that this feature article only covers the period from the 1920s to early 1973. Much more data, including the Haynesville shale play, currently exists (Cicero, 2010; Hammes, 2011; Goddard, 2016).

A SUMMARY OF OFFSHORE GULF OF MEXICO HISTORICAL LEASING

We begin the story of the federal lease sale program a few years before its inception. In 1936, the state of Louisiana issued its first offshore oil and gas lease to Pure Oil. The following year, Pure Oil and Superior Oil drilled on this state-issued lease in the Gulf of Mexico, constructing a freestanding structure in the ocean. It was located 1.5 miles offshore in 14 feet of water near Cameron,

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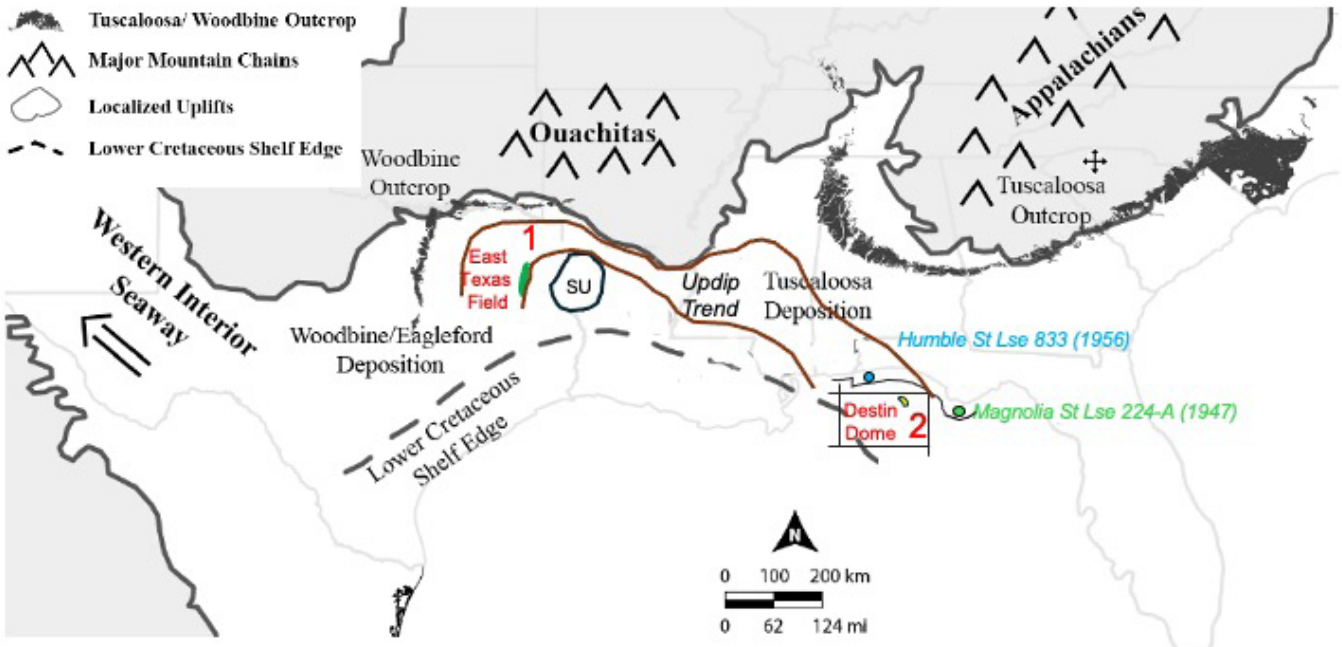

Figure 5. *A generalized paleogeographic map showing the proximal positions of different sediment highlands during deposition of the Woodbine and Tuscaloosa intervals - Modified from Woolf, 2012*

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Louisiana. A discovery resulted in the opening of the Creole Oil Field. Later, in 1947, Kerr-McGee Oil Industries drilled the first productive well "out-of-sight-of-land" on a platform 10.5 miles off the Louisiana coast in the Ship Shoal area. However, in 1950, the federal government sought involvement in potential lease sales and requested the US Supreme Court to rule on whether states or the "feds" could issue drilling leases. The Court ruled against Louisiana, Texas, and California, which had issued other offshore leases. It declared that the government possessed "paramount rights" that transcended the states' ownership rights, and for a few years, no leasing occurred. It was not until 1953 that Congress, under President Eisenhower, signed legislation allowing the states bordering the Gulf of Mexico to claim submerged land within three nautical miles of their shores. Texas and the West Coast of Florida subsequently secured a state lease boundary out to three leagues (10.4 miles, based on historical claims). Following these regulations, the Department of the Interior Bureau of Land Management (BLM) office in New Orleans held the first federal lease sale (Sale #1) in 1954. The eastern Gulf of Mexico had its first lease sale (#5) in 1959. By 1973, there were three planning areas in the Gulf of Mexico, and the Eastern planning area had sale #32 that same year. This was a significant sale for companies, including now Exxon, which in 1972 had freshly rebranded its original name, Humble, along with Esso and Enco companies, forming Exxon.

What younger offshore explorers may not realize is that between 1954 and 1983, bidding was limited to a specific number of blocks. The number of blocks offered in any lease typically ranged from 75 to 175 but was fewer than 515. These blocks were available only through nominations made by oil companies on specific prospects of interest, with the final decision subject to agreement by Interior Department officials. The era of lease speculation with minimum bids was still ahead. Maximum cut-off water depths were also implemented in block nominations. Each lease sale during this time shifted the focus to deeper waters. By 1982, the maximum water depth was approximately 650 feet. The most prominent participants in lease sales included major oil companies such as Shell, ARCO, Chevron, Gulf Oil, Amoco, Exxon, Texaco, and Mobil. The twelve largest bidders accounted for roughly 75% of the bids and an even higher percentage of wins. In 1975, a ban was imposed on certain major oil companies from collaborating on joint bids (Mulholland, 1984). The criteria specified that producers with international oil production exceeding 1.6 million barrels per day were prohibited from joint bidding on any tract in the lease sales. This ban on joint ventures primarily arose from concerns that collaborations among major producers were diminishing the revenues received by the Government for OCS tracts. Eight companies were barred from making joint bids with others on the list (Exxon, Texaco, Gulf, Mobil, Standard Oil of Indiana, Standard Oil of California, Shell, and British Petroleum).

EXXON TAKES LEASES ON DESTIN DOME, LOOKING FOR AN EAST TEXAS TUSCALOOSA PINCH-OUT TRAP

The Destin Dome structure is an anticline cored by a salt pillow and has the entire Mesozoic section in closure. The structural movement and closure of the whole Mesozoic section occurred recently and has led some to seriously question the charge and migration processes that entrapped hydrocarbons (Foot, 1985). In 1973, onshore exploration had the most wells targeting the Tuscaloosa/Woodbine and Smackover formations (Cate, 1974). With the lease sale now opening in federal waters, these two targeted plays extended into the Destin Dome protraction area. Many in the industry touted the Destin Dome as the most promising OCS area, second only to the Gulf of Alaska (Priest, 2022). In 1973, Sale #32 was held in the Eastern Gulf of Mexico, also known as the MAFLA sale area (Mississippi, Alabama, and Florida). The MAFLA sale garnered $1.49 billion in high bids and exposed more than $3.4 billion (Priest, 2022). The sale made 147 (nominated) blocks available for industry bidding (Foote, 1985). Eighty-nine blocks were bid on, with only two blocks rejected by the government. However, the crestal area of the Destin Dome structure was unavailable for leasing since the apex of the anticline lay within a military zone. Exxon and its partners bid a record $212 million for a single OCS block, Destin Dome block 162. The Exxon group also secured five more adjacent blocks in the Destin Dome structure, totaling $632 million. All the blocks that Exxon bid are located on the dome's eastern crest and flank area. Exxon's primary target was the Tuscaloosa/Woodbine sands. The potential sands are bounded by the base of the Selma Chalk (Santonian) and the top of the unconformity of the Lower Cretaceous (Upper Albian) (**Figures 6** and **7**). Clinoform geometries can be observed down-lapping in this interval, as structurally, the interval thins to a pinch-out (**Figures 8** and **9**). This geometry resembles that of the East Texas supergiant oil field.

Durham (2001) interviewed the offshore manager of Shell Oil in charge at the time of the lease sale #32 in 1973, regarding Shell's pre-sale thoughts. Steward said, "There was a big lease sale in the early 1970s, and everybody was bidding on it" (Durham, 2001). Mike Forrest, also known as "Father of the Bright Spots, " stated that the objectives were primarily for Cretaceous reservoirs. This lease sale occurred six years after Shell developed the bright spot technology (direct hydrocarbon indications). Steward mentioned, "We couldn't see any bright spots, so we used the technology in reverse to modify our bids and bid only on one tract, mainly to be sure we were represented on it." (Durham, 2001).

Exxon drilled seven consecutive dry holes on the dome, while other operators drilled five additional dry holes targeting the Smackover on the basin-rimming structures adjacent to Destin Dome (**Table 1** and **Figure 10**). Exxon was undoubtedly disappointed with the early results on the Woodbine/Tuscaloosa but drilled more wells

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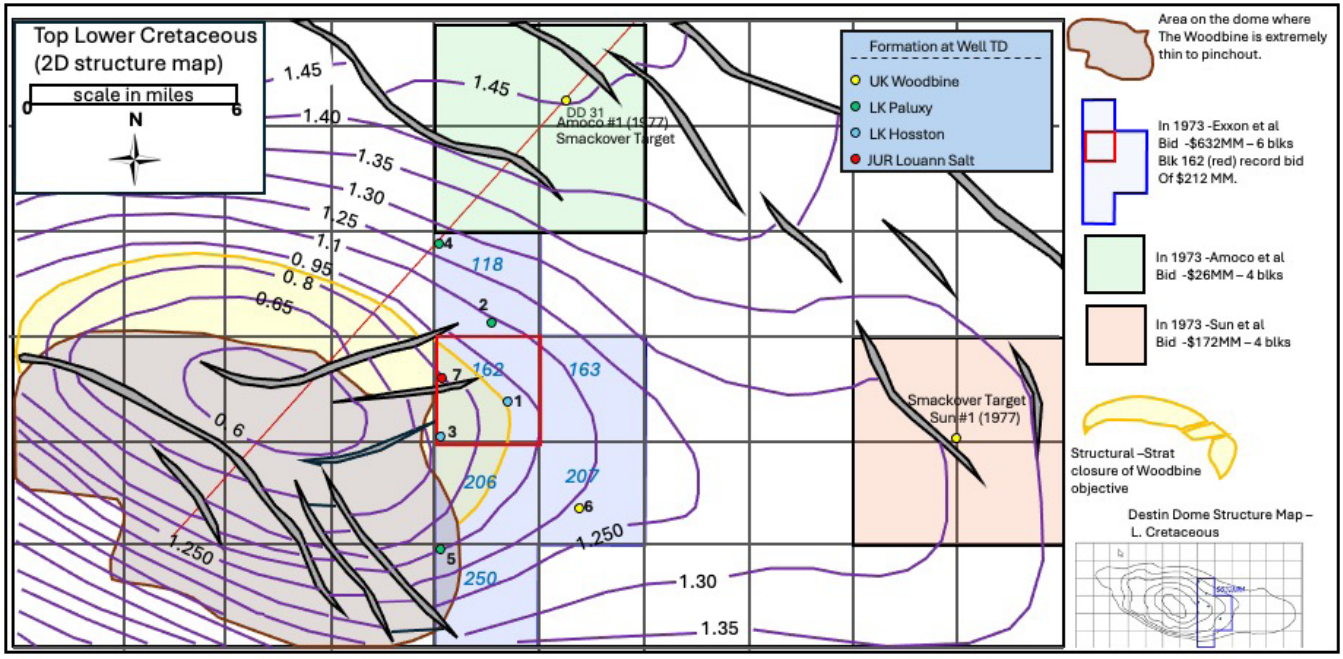

Figure 6. *A Time Structure Map on top of the Lower Cretaceous. The blue, green, and tan colored blocks are individual blocks purchased in the 1973 lease sale (see legend). The cross-section line shown is a location map for the seismic tracing of the line in Figure 7*

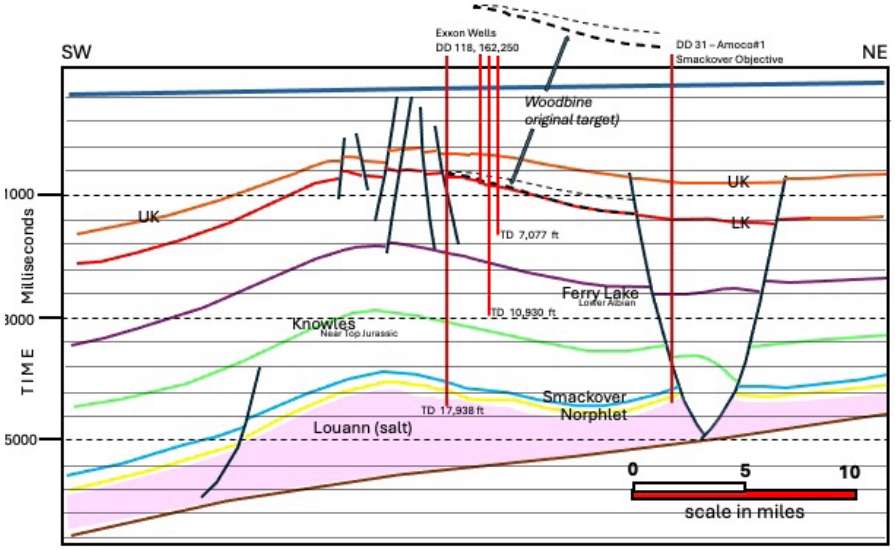

Figure 7. *A seismic tracing of a time section that ties the DD31 Amoco well and the DD 118 Exxon well. The three closely spaced wells of Exxon's are a slight projection into this seismic line tracing.*

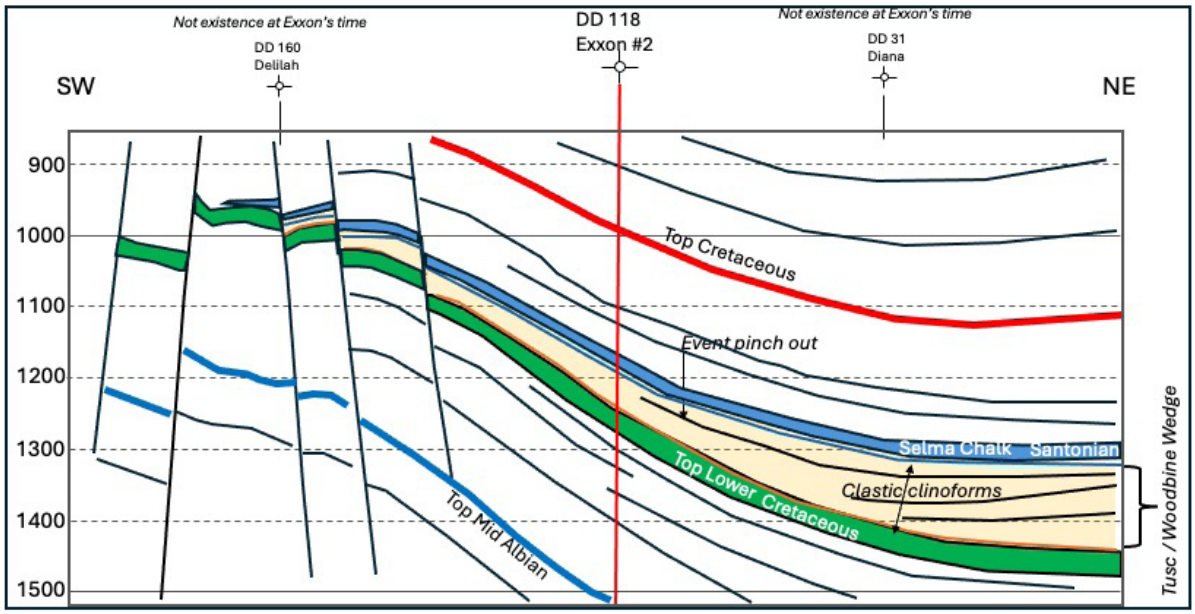

Figure 8. *A seismic tracing of a time section that ties Exxon's DD 118 #2 well. Notice the yellow highlighted target of the Tuscaloosa/Woodbine section and the clastic clinoforms that downlap as the total interval thins onto the structure.*

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into the lower Cretaceous Paluxy and Hosston intervals. Both intervals contained abundant sands, interbedded with red-colored shales, and lacking interbedded marine shale. The red shale color suggests the sandstones are likely subaerial fluvial or continental sands. Between the sandy intervals are shallow water carbonates and anhydrites that make up the Lower Albian and Aptian section, with thermal maturity in the early oil window by the Aptian interval. The Pine Island Shale has some thin source rock-quality beds. The top Jurassic was only penetrated in Exxon's 162-3 well. The Knowles limestone marks the near top of the Jurassic, and is represented by only a 25-foot-thick limestone transgression. Bounding above and below the thin Knowles limestone are gray (marine) shales with about a three-hundred-foot interval centered at the Knowles limestone. The Cotton Valley section is characterized by very sandy material with all wet sands. These sands are likely also continentally deposited due to the interbedded, red-colored shales. Carbonates are found near the top of the Smackover formation with three defined members, expressed on seismic with clinoforms in the middle member (Godo, 2023). Exxon's deep test objective was the Smackover and Norphlet sandstone, with the top of Norphlet at 17,558 feet. After entering the Norphlet, coring commenced, extracting five consecutive cores from 17,598 to 17,690 feet. Oil staining is present in the top 100 feet of the formation. The top of the Louann salt was reached at 17,936 feet, with a total depth of 17,938 feet. The other leases acquired in sale #32 in the Destin Dome protraction area were also drilled, resulting in 11 dry holes. The next lease sale did not occur until January 1984 (sale 79) when an additional 156 tracts were leased, with drilling continuing. With the 15th well drilled, Shell made the first oil discovery in the Norphlet. The discovery well is located on Destin Dome, only four miles west of Exxon's Norphlet penetration.

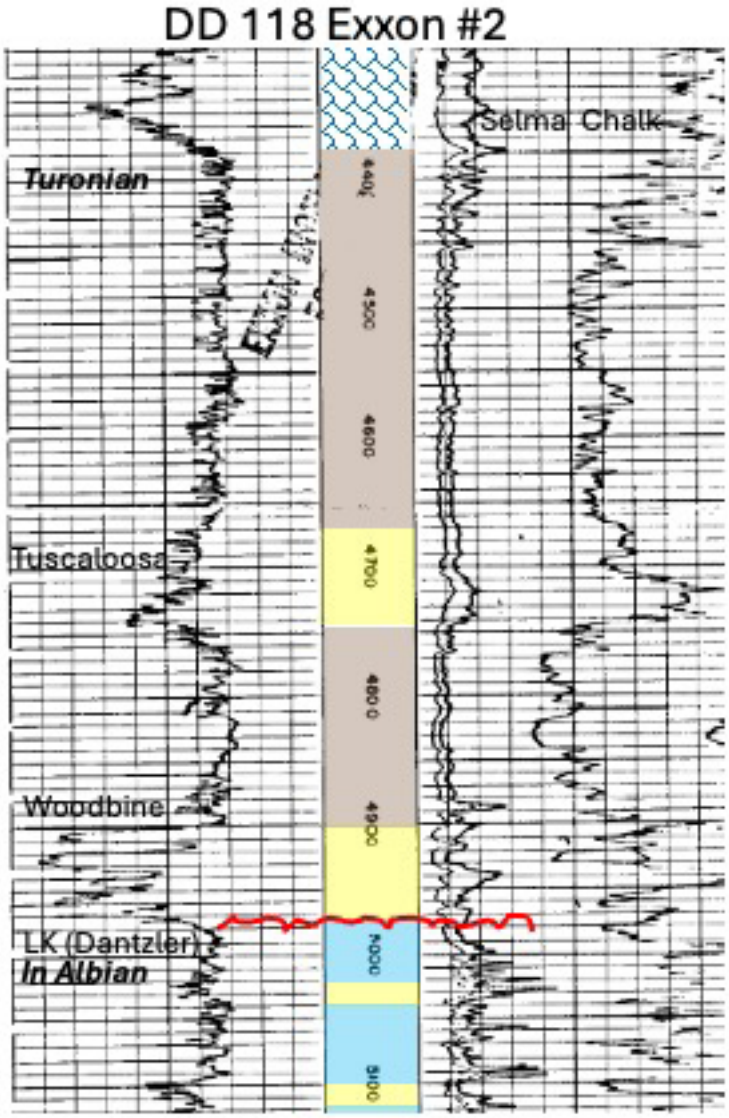

Figure 9. *The gamma ray and resistivity log of Exxon's DD 118 #2 well.*

Block #	Operator	Compl date	FM@TD	TD Depth
DD 162	Exxon-1	9/3/1974	Hosston	10,930 ft
DD 118	Exxon-1	9/24/1974	Paluxy	7,077 ft
DD 162	Exxon-2	1/3/1975	Hosston	10,417 ft
DD 118	Exxon-2	1/23/1975	Paluxy	7,507 ft
DD 250	Exxon-1	2/13/1975	Paluxy	6,634 ft
DD 207	Exxon-1	2/26/1975	LK	4,800 ft
DD 162	Exxon-3	5/26/1975	Louann	17,938 ft
DD 166	Sun-1	2/26/1975	Louann	17,608 ft
DD 360	Gulf-1	9/22/1975	Cotton Valley	20,988 ft
DD 617	Zapata-1	10/15/1977	LK	10,513 ft
DD 31	Amoco-1	12/3/1977	Louann	18,338 ft

Table 1. *The first eleven wells drilled on leases acquired in the 1973 (sale #32)*

SUMMARY

This article begins with the Humble Oil Field near Houston, Texas and the formation of the Humble Oil Company in 1911. Following its involvement in the Humble Oil Field, the Humble Oil and Refining Company evolved into a more integrated entity in upstream and downstream operations, marked by the addition of its new Baytown refinery. The next step in Humble's success was its involvement in the 1930s East Texas supergiant oil field, which holds over 6 billion barrels of oil. "Dad" Joiner discovered the field, and a brief description of this discovery is given. The W/T reservoirs of the East Texas Oil Field became a prolific target for production across the Gulf states of Texas, Louisiana, Mississippi, and Alabama. Exploration for this reservoir extended into onshore Florida, culminating in 1973 with the offshore lease sale. Humble, then freshly rebranded as Exxon, placed a record bid on Destin Dome, a record that still stands today for all lease sales in the Gulf of Mexico. Exxon's value was based on a pinch-out of the W/T sands,

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similar to the East Texas and the Delhi Field oil fields (Powell, 1972). Exxon drilled seven wells in their Destin Dome blocks, targeting the original W/T target but also deepening other wells into the Lower Cretaceous Paluxy and Hosston Sandstones. Their seventh well, discovered thick porous Norphlet, which sets the stage for future wells targeting the Norphlet pod geometries on Destin Dome (Godo, 2023). There is also a section in the article that describes the history of offshore lease sales from their inception until the 1973 lease sale. ■

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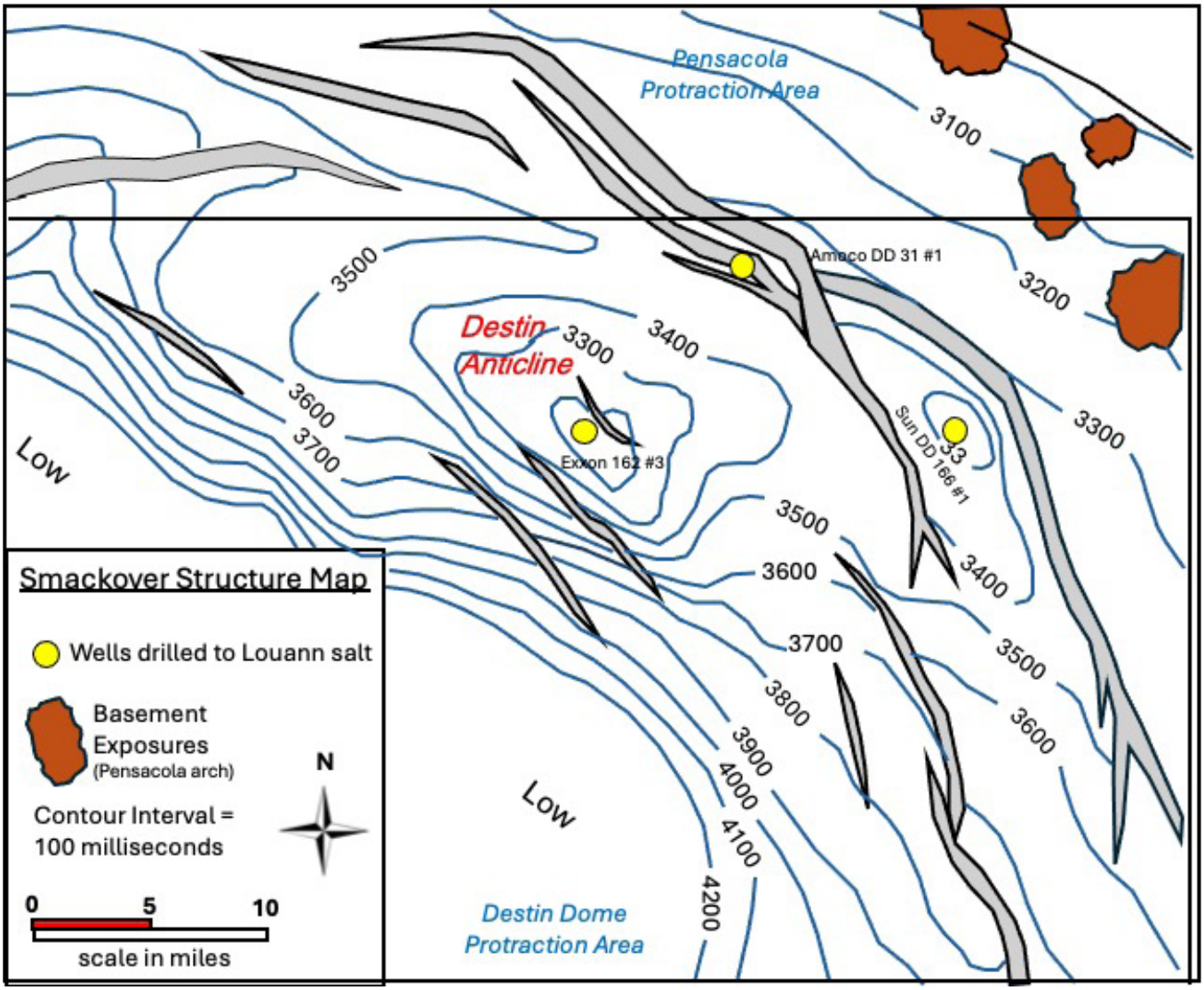

Figure 10. *A time structure Map made on the basal Smackover. The Three yellow dots are the wells that reached the Louann salt, targeting the Smackover and Norphlet. The Norphlet is absent in the Sun (Donna) DD 166 well. The Norphlet in the Amoco (Diana) DD31 well has both some fluvial and aeolian facies. The Exxon well has thick Norphlet aeolian facies shown in a well-developed "pod" geometry, like the geometries in Mobile Bay. The brown areas in the northeast are Paleozoic highland exposures of a portion of the Pensacola arch during Norphlet and Smackover deposition.*

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Dr. Bill Raatz, Occidental Petroleum
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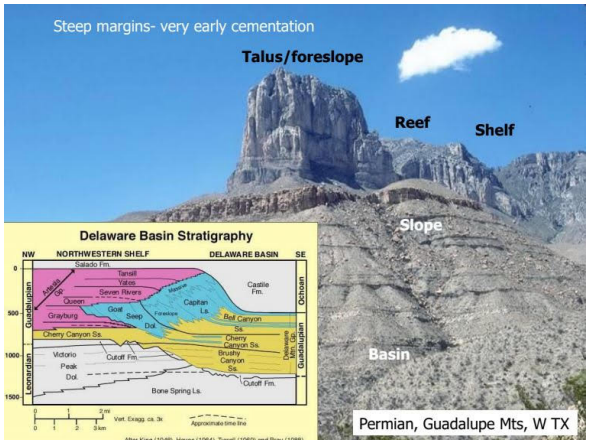
- Controls over Carbonate Deposition and Diagenesis
- Carbonate Classification (Dunham) and Rock Typing (Lucia)
- Carbonate Porosity Types (Choquette & Pray, Lucia)
- Connected vs Nonconnected Porosity (Lucia)
- Permeability and Saturation (Lucia, Leverett J Functions)



BIOGRAPHICAL SKETCH

Bill Raatz is currently an Oxy Fellow with Occidental Petroleum. Past positions with Oxy include Worldwide Chief Geologist and Director of Geosciences. Bill's specialties are carbonate depositional systems, stratigraphy, and reservoir characterization, which he has applied extensively in the Permian Basin and Middle East. He teaches short courses in reservoir characterization, sedimentary petrography, core interpretation, and field trips to New Mexico, West Texas, and Oman.

Bill has served AAPG as a Search and Discovery editor and as a member of the Corporate Advisory Board. He has published numerous papers and edited special publications on the geology of the Permian Basin region.

Bill previously worked for ARCO International Exploration, ARCO Alaska, Phillips Alaska, and New Mexico Tech University. He received his BS and MS in Geology from the University of Iowa, and his PhD from the University of Wisconsin-Madison.

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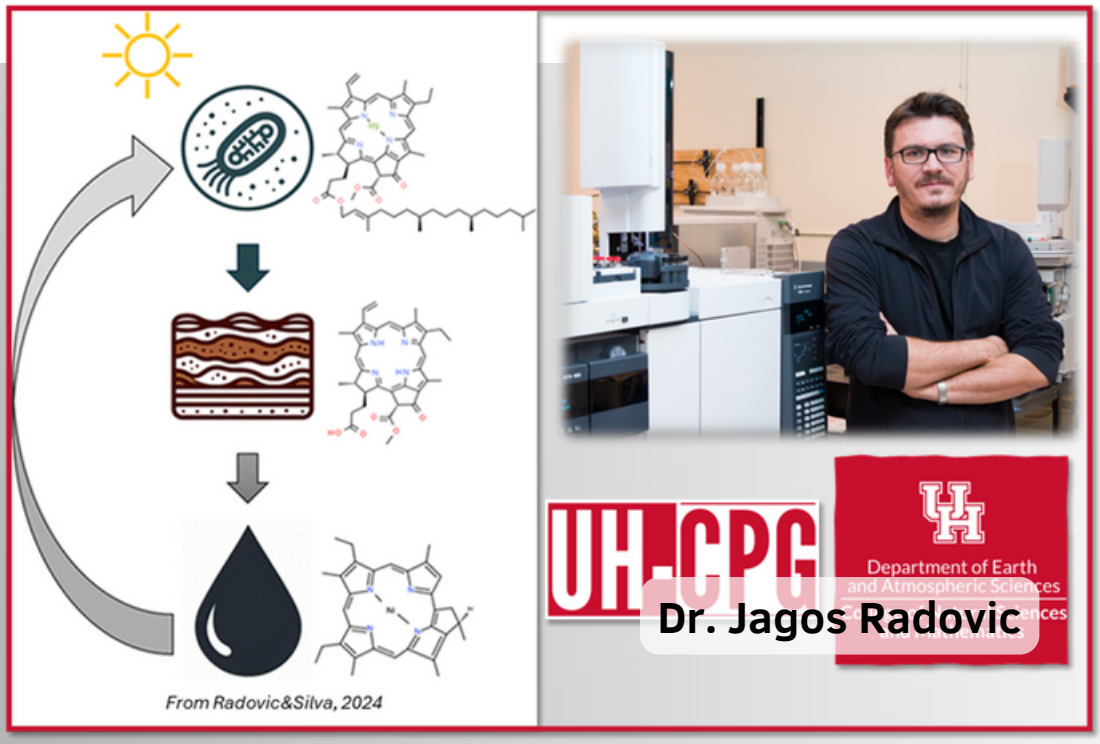

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Mesozoic Paleo Bathymetric Progression in the Offshore Gulf of Mexico

By Ted Godo

INTRODUCTION

I received questions regarding the April 2024 *Bulletin* article on the Cheyenne lookback. More information was sought to determine whether the paleo bathymetries found in Cheyenne (LL399) and Barracuda (DC927) were also present in other wells drilled in a more basinward location (see **Figures 4** and **7**, Godo, 2025). This article will offer a broader examination of the wells in the Gulf of Mexico that penetrated the Late Jurassic sediments and describe the paleo-bathymetric interpretations. A key figure in this month's article will be a stratigraphic chart annotated with paleowater depths. It will illustrate a consistent progression of increasing water depth during the Late Jurassic ramp-platform slope profile, followed by a steeper basin slope angle and the development of the Cretaceous shelf edge. In addition to the stratigraphic chart, four examples of wells are shown in this more basinward position: Norton (GB 754), Sturgis (AT 182), Wrigley (EB 922), and Showboat (AT 336).

In recent literature, models suggest that the Louann salt was deposited in deep waters (Rowan, 2018; Konstantinou, 2023; Curry, 2024), while Pindell (2022) describes a model that does not invoke deep-water deposition. Although nothing specifically in the salt indicates a water depth of deposition, examining the entire overlying Mesozoic stratigraphy supports the idea of shallower water salt deposition. The initial post-salt stratigraphy of the Smackover carbonate, along with possibly some contemporaneous Norphlet deposition around the Gulf rim, exhibits paleo bathymetries indicative of neritic water depths, typically 50 feet or less. The four example wells that penetrate Jurassic and Lower Cretaceous sediments can be generally summarized by a gradual deepening of water depth through the Mesozoic. The specific progression in the Late Jurassic then continues with neritic deposition deepening to inner neritic, then finally, outer neritic water depths. By the late Cretaceous, the environments deepened to upper and mid-bathyal. Regarding the water depth of the Louann salt, the overlying sediments suggest a continuing shallow water environment contemporaneous with the end of the Louann salt deposition and steadily deepening to bathyal conditions by the end of the Cretaceous.

METHODOLOGY

Many wells drilled into the Mesozoic rocks of the Eastern and Central Gulf of Mexico contain publicly available paleontological data. **Figure 1** is a map showing the wells with paleontological data, which were used to create a general cross-section. The annotations on the map indicate the boundaries of the Louann salt (green line), the vertically stacked Cretaceous shelf margin

Mesozoic Paleo Bathymetric Progression *continued on page 29*

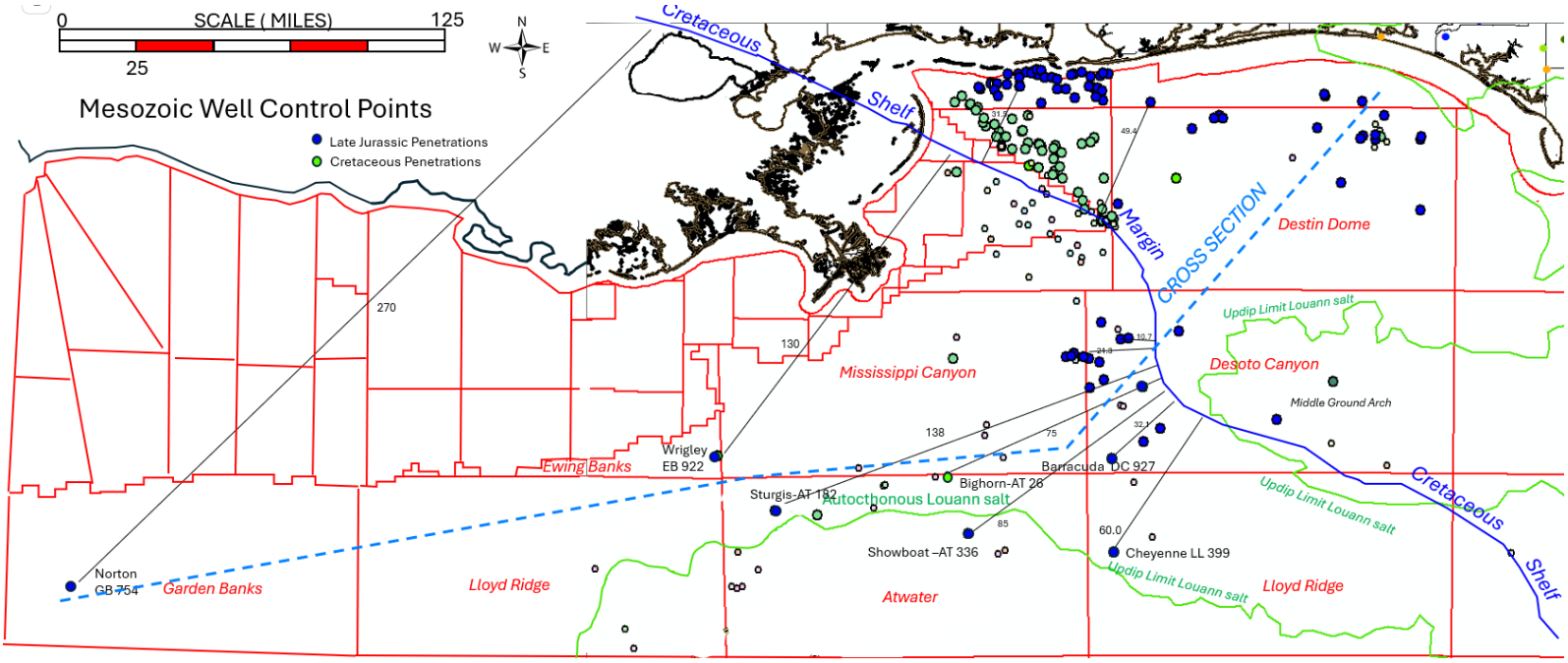

Figure 1. *Base map of the Gulf of Mexico showing the Cretaceous and Jurassic well penetrations. Reference lines are the limiting extent of the Louann salt (green line) and the vertically stacked Cretaceous carbonate shelf margin. Distance from individual wells projected to the Cretaceous shelf edge are thin black lines with a number of miles of that line's length. Well names are featured in the April HGS Bulletin, and today's article is next to the well.*

Mesozoic Paleo Bathymetric Progression

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edge (blue line), Late Jurassic penetrations (dark blue circles), and Cretaceous penetrations (green circles). The thin black lines connecting specific wells to the Cretaceous margin highlight the distance from the shelf edge in miles. The dashed blue line represents a cross-section (**Figure 2**) that depicts the Late Jurassic stratigraphy, starting with the Smackover, which was deposited on a gently sloping ramp without a distinct or abrupt shelf edge. The green lines on the cross-section represent Cretaceous stratigraphy that illustrates an increasing slope into the basin as subsidence deepens the paleo water depth. This seafloor relief is particularly accentuated by the development of the first rudist reefs occurring in the Aptian. Drawn above the cross-section in **Figure 2** is a multicolored sloping bar representing the seafloor, colored according to the stratigraphy deposited at different water depths, ranging from coastal to abyssal (PaleoData, 2002 chart). The vertical, brightly colored bars shown adjacent to a typical deep water well are PaleoData's colors for the paleobathymetric zonation. The diagonally striped, blue overlay on the bright water depth columns show the range of depth for any age based on several wells. Then, this sloping diagonal bar is overlain on the cross section with paleo water depths from wells projected onto the cross section. As a result, the slope of the increasing water depth is almost vertical in wells located behind the shelf margin and projected onto the cross section. The more basinward-located wells show a faster progression to increasing water depths due to more subsidence located further basinward of the shelf margin (**Figure 1**).

BACKGROUND GEOLOGY

The Late Jurassic Louann seawater initiated a transgression represented by the Smackover carbonate. The transition from salt deposition is marked by a thin (10-30 feet) layer of generally reddish to reddish-brown shale. This shale, has isolated silt-sized quartz grains, likely windblown and derived from rimming arid desert sands of the (Godo, 2017, 2019). The first carbonate unit deposited over the reddish shale shows a clean gamma-ray reading on the logs, resulting from an argillaceous-free limestone and dolomite. High salinity waters exhibit minimal evidence of life, except during occasional fresh water runoff that triggers

Mesozoic Paleo Bathymetric Progression continued on page 30

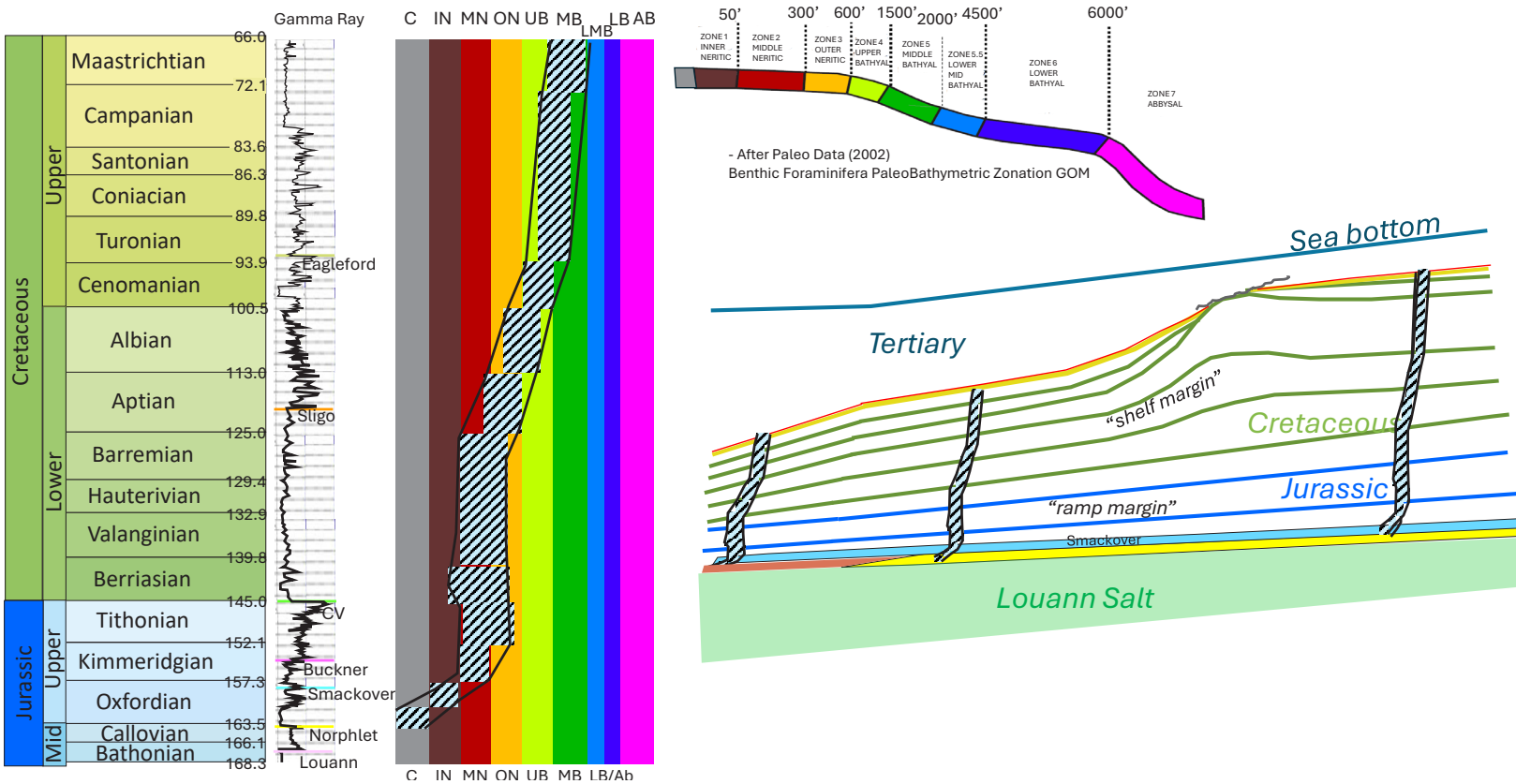

Figure 2. *The well log and stratigraphic column on the left depict a deepwater well. Plotted to the adjacent right of the log are brightly colored bars, each bar representing a paleo water depth interpreted from well samples. The same colors are shown as zones on a dipping seabed into deeper water used by PaleoData (2002). The diagonal blue bars represent the range in water depths of the wells. The cross section in the lower right quadrant is also shown on the index map in figure 1. In blue lines are Jurassic stratigraphy depicting a gently sloping ramp profile allowing broader shallower water environments. The green lines show the Cretaceous stratigraphy with increasing dip rates into the basin and the development of a bathymetric high from the shelf margin edge. Overlain on this cross section are the diagonally striped bands of paleo depth from wells projected laterally onto the appropriate dip position. The profile from wells on the shelf is almost vertical with respect to changing water depths, whereas the more basinward wells show a more marked change earlier in the section to deeper waters.*

Mesozoic Paleo Bathymetric Progression

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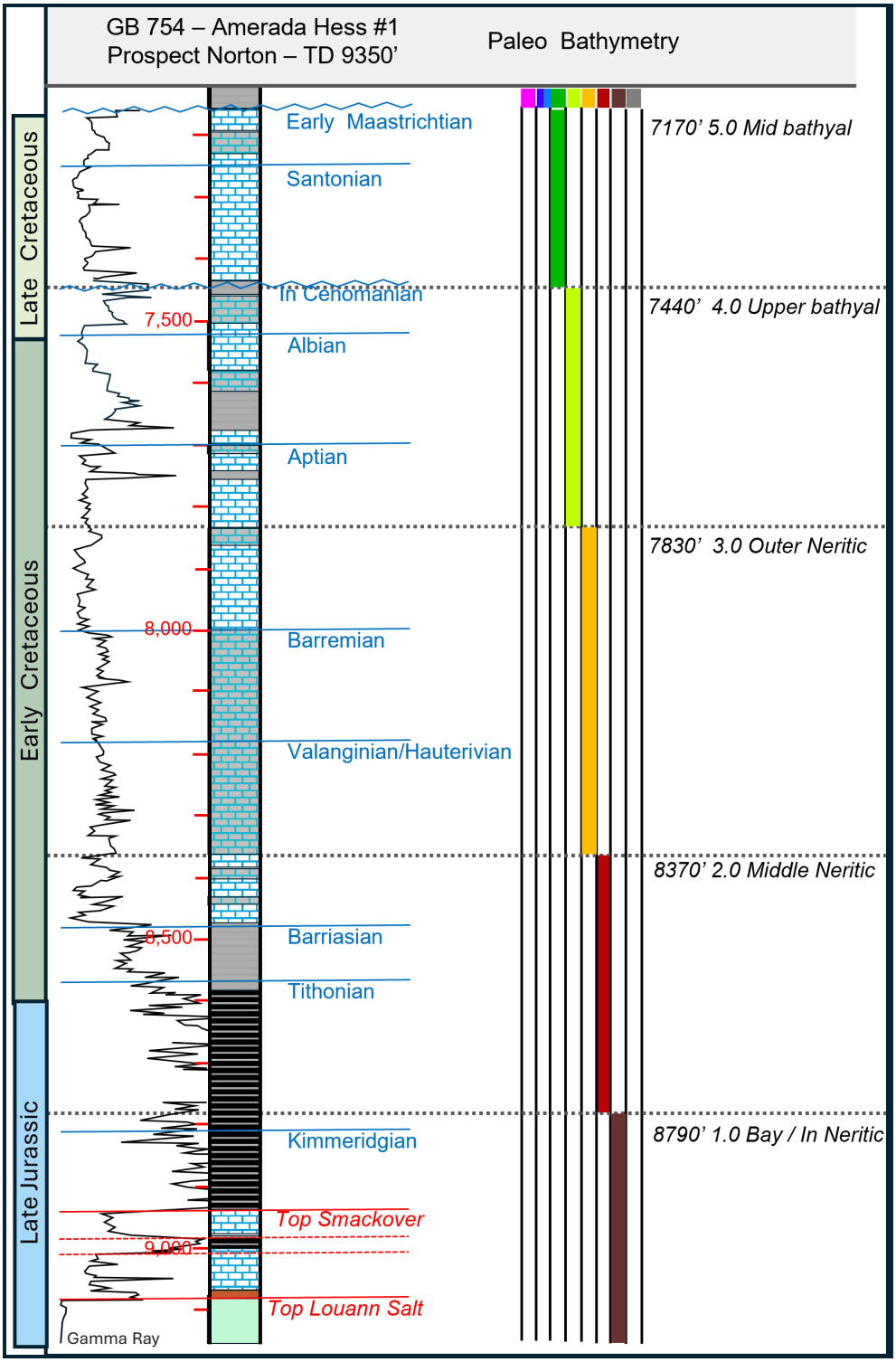

Figure 3 *Prospect Norton drilled a section of Mesozoic that has a well-representative stratigraphic sequence of all Mesozoic ages and relative thickness ratios between all individual ages. A minor unconformity at the Turonian level may have cut some of the Eagleford shale, but there is an apparent thin shale representative of it in the Cenomanian period. There is also a typical representation of the increasing water depths from inner neritic in the Smackover to mid-bathyal at the top Cretaceous. Even the basal red shale of the lower Smackover is present in the well just above the Louann salt. Also, there is no anhydrite (Pine Hill formation) for a well drilled out in the basin away from the updip edges of the Louann salt, where repeated wetting and drying in these fringing areas cause gypsum crystals to form, leading to anhydrite formation.*

algal blooms. These algal "mats" then sank to the seafloor without being disrupted by wave action. Rarely, finely articulated Brachyphyllum stems are found trapped in algal blooms and preserved in the rock record of algal laminations, as observed in Smackover thin sections from USGOM Antietam and a well in Mexico's Sureste Basin (Godo, 2023 oral presentation). The surface water of the Smackover transgression was so calm that it avoided significant reworking of topographically high Norphlet sand dunes. Instead of collapsing and flattening the sand dunes, they were essentially buried or entombed, preserving their paleo relief (Godo, 2019a). In areas such as the Desoto Salt/ Apalachicola embayment, the middle member of the Smackover received a source of clastics that prograded into the basin, leaving striking examples of clinoforms where water depths can be estimated (Godo, 2023; **Figure 5**).

After the deposition of the Smackover formation, the later Oxfordian and Kimmeridgian age sediments and marls continued to accumulate across the Gulf of Mexico due to gradual subsidence on a gently sloping ramp profile. The thickness of the Kimmeridgian decreases significantly in outboard locations on the ramp, likely due to fewer argillaceous muds found updip, which did not extend as far basinward. Paleo water depths in the Kimmeridgian can range from inner to middle neritic.

Following the deposition of

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Mesozoic Paleo Bathymetric Progression continued from page 30

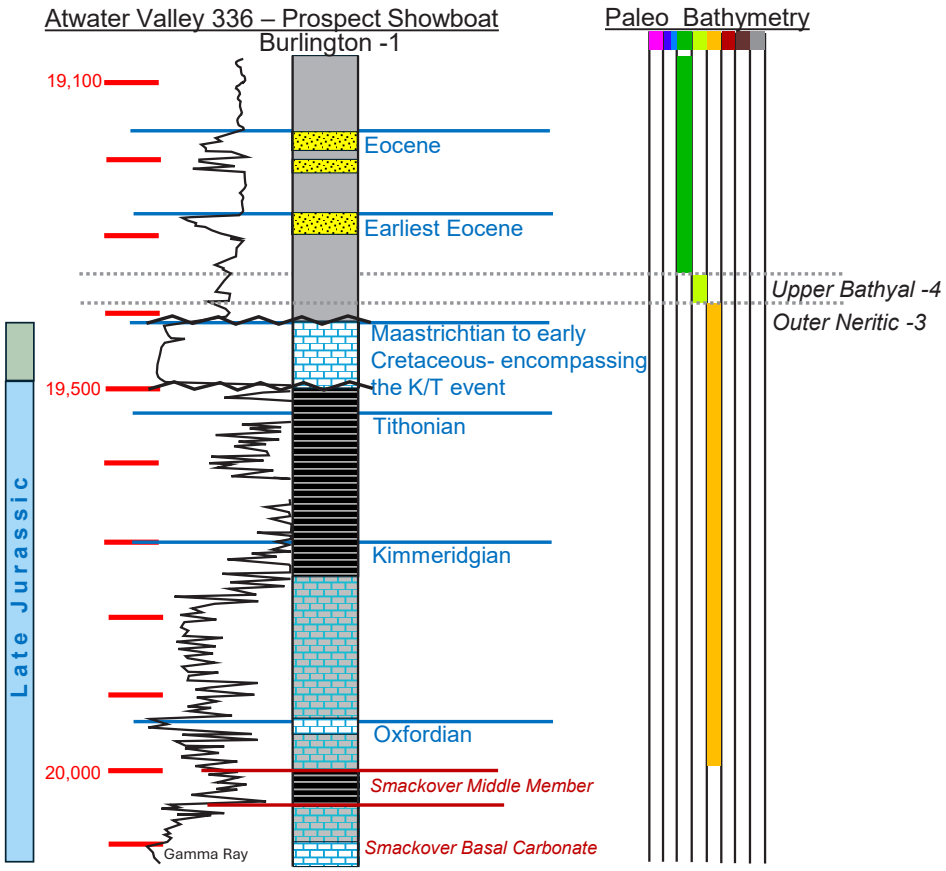

Figure 4 *Prospect Showboat was drilled on a frontal thrust high near the edge of the Louann salt, separated by oceanic crust. Stratigraphically, there was deep erosion caused by the Chicxulub impact in the Yucatan, where erosion and subsequent deposition left a deposit known as the K/T cocktail containing a mixture of reworked microfossils, lithic fragments, and impact-derived material. The erosion removed Lower Cretaceous rocks such that the Jurassic Tithonian (source rock) shale lay beneath the scour surface. Below the Tithonian are the Kimmeridgian marls, followed by the Oxfordian section. The three typical members of the Smackover (upper middle and low) appear to be represented. It is unfortunate that if the well were drilled another one hundred feet or so, it would have encountered the Louann salt?? Based on the paleo reports, the Jurassic section was deposited in outer neritic water depths.*

the Kimmeridgian, the Tithonian section found in growth fault expansion is higher on the ramp profile and is also significantly thicker. However, it thins markedly in wells located further basinward. The sands and shales in the expanded section contain less rich source rock compared to mid-ramp and lower ramp settings, likely due to reduced dilution from sand and silt sedimentation. A major transgression during the late Tithonian to Berriasian ages halted clastic input into the basin. The peak of the transgression is represented lithologically by the Knowles Limestone, of Valanginian age. Early in this transgression, the general water depths ranged from middle neritic (Bighorn AT26) to outer neritic (at the deepest). With little clastic input, this transgressive interval created the richest source rock of the Gulf of Mexico. After the Valanginian (Knowles) deposition, the Hauterivian and Barremian periods featured mainly marls and shales formed in middle neritic wells, with log characteristics similar to those in outer neritic depths. From the Aptian onward, water depths deepen to upper to mid-bathyal levels, signifying the end of the Mesozoic.

FOUR DEEP-WATER EXAMPLE WELL PENETRATIONS WITH PALEO BATHYMETRIES

The four example wells in the deep-water Gulf of Mexico are all exploratory dry holes that penetrated the Late Jurassic. The Norton well, drilled in Garden Banks block 754 by Amerada Hess, is a key penetration studied by many oil and service companies (**Figure. 3**). This well penetrated the Mesozoic section atop a salt mass that was brought closer to the surface than in the other three wells. After penetrating the top Maastrichtian, water depths through the Upper Cretaceous were deposited in mid-bathyal environments. As the well advanced into the Lower Cretaceous, water depths decreased to an upper bathyal depth, followed by older outer neritic and middle neritic depths in the stratigraphy. In the Late Jurassic, the water depth became the shallowest as shown by the middle and inner neritic environments.

The second example of a wellbore annotated with paleo bathymetry is the Prospect Showboat well in Atwater Valley block 336 (**Figure 4**). Burlington Resources drilled the well in 2000 to assess its prospectivity and the potential occurrence of shallow-water Lower Cretaceous carbonates (Dohmen, 2002). Dohmen (2002) states that Burlington's belief in 2002 was that the K/T boundary penetrated in the Showboat well was the frequently mapped "Middle Cretaceous Event" (MCU). The Jurassic paleo was not well established or recognized. Their "Lithofacies 2" (19,444-19,520') described a poorly sorted lime wackestone containing pelecypod fragments and foraminiferal tests. Peloids, quartz silt, and coaly debris were also identified. The dip meter shows an "anomalous" pattern compared to the adjacent events of high-angle bedding at the base, with progressively lower dips above, capped by a thin sandstone. The "Lithofacies 2" unit of Maastrichtian age was considered a turbidite deposit from the "meteorite impact." (Dohmen, 2002). The now well-recognized Tithonian source rock interval (their Lithofacies 1; 19,520-20,147')

Mesozoic Paleo Bathymetric Progression *continued on page 32*

Mesozoic Paleo Bathymetric Progression

continued from page 31

was described as "kerogen-rich shales/lie mudstones with red pigmented, dolomitic and pyritic shales."(Dohmen, 2002). More than twenty years later, it is acknowledged that paleontologically, the well penetrated a thin amalgamation of Maastrichtian to Lower Cretaceous sediments deposited by the Chicxulub event (see the HGS Bull March 2025 article). Below this unconformity is the typical source rock expression of the Tithonian. Beneath the Tithonian are carbonates and marls of the Kimmeridgian and Oxfordian. The well is also interpreted to have reached a total depth in the lower Smackover basal carbonate, just under the middle Smackover source rock.

Prospect Sturgis is the third example of a wellbore that penetrated the Oxfordian, likely the middle Smackover (**Figure 5**). Chevron drilled Sturgis in 2003 with the primary objective of Miocene-aged targets on a subsalt structure in northeast Atwater Valley. Over 100 feet of oil was found in the Miocene, but it had to be sidetracked. The sidetrack well is shown in **Figure 5** and is labeled Atwater 182 #1ST1; even though the bottom hole crosses into block AT 183 where it reached a total depth in the Oxfordian. An internal report for Chevron, now released, titled "Geochemical Interpretation of the ChevronTexaco Atwater Valley 182/183 #1 Well," describes the excellent source rock potential in the Tithonian and Oxfordian section (**Figure 5**). Much of the kerogen in this interval is Type I and Type II. "The modified van Krevelen diagram is interpreted to be consistent with a carbonate or calcareous shale source rock deposited in a highly anoxic, probably restricted, marine environment of deposition." "The surface water was likely oxygenated to permit intermittent algal blooms; however, the bottom water was dense hypersaline, allowing preservation of algal-derived organic matter." Based on the released paleontologic reports, the environment of deposition in the penetrated Mesozoic section is outer neritic (**Figure 5**).

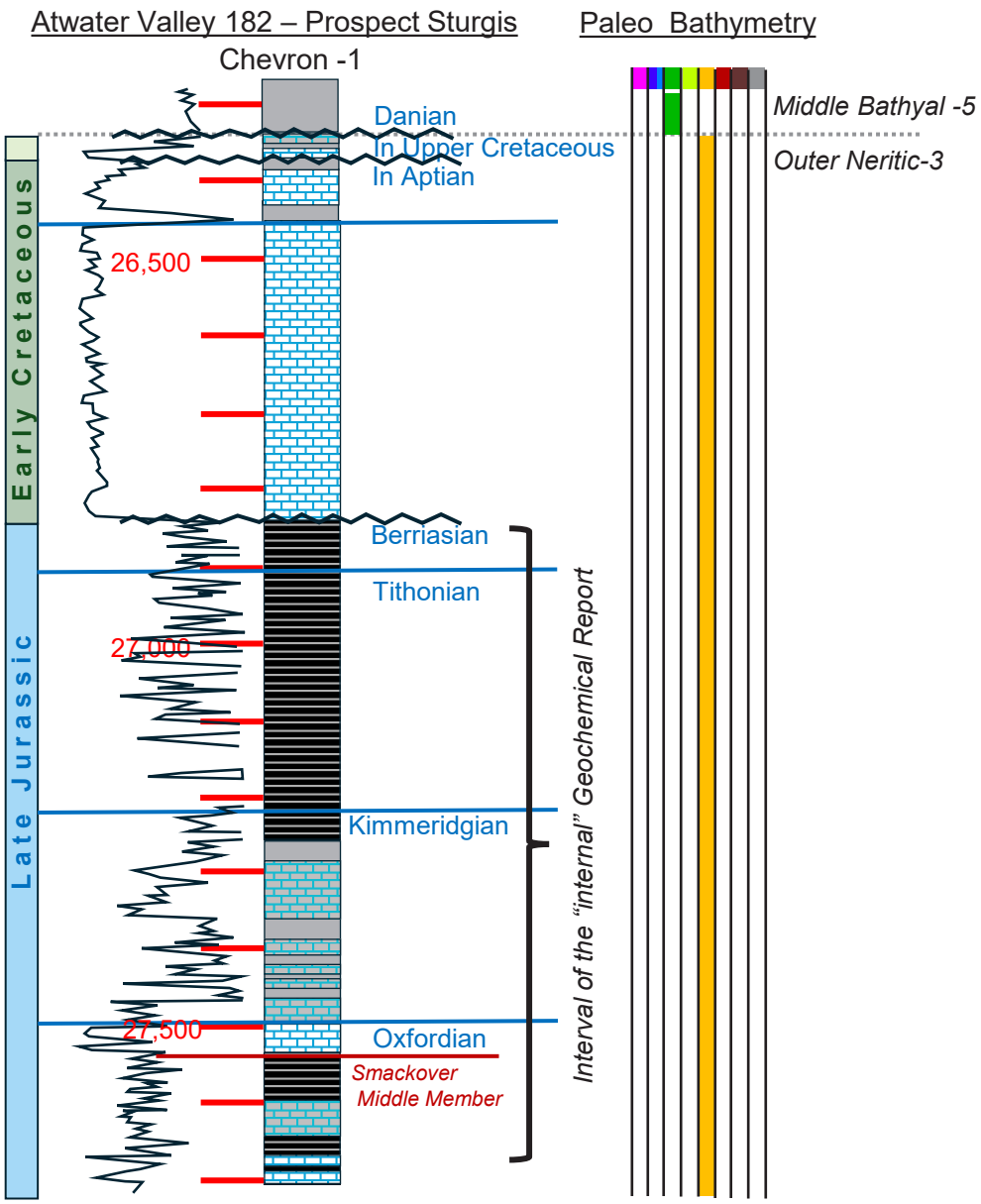

Figure 5 *Prospect Sturgis has two larger unconformities, where one removes the Albian of the Lower Cretaceous, then another unconformity that removes the Barremian through Valanginian section, with the Berriasian and Tithonian source rocks underlay this unconformity. This unconformity removes the same age rocks at Cheyenne (LL399). The Berriasian and Tithonian are excellent source rocks, as are the Oxfordian Smackover's middle members. The well reached a total depth, likely in the middle member of the Smackover. Based on the paleo reports, the entire section was deposited in outer neritic water depths, the same as in the Showboat well.*

The last example of a well that penetrated the Mesozoic is Prospect Wrigley, drilled by Amerada Hess, located in the Ewing Bank block 922 (**Figure 6**). Wrigley was drilled in 1998 using older seismic data than is available today. No doubt, Amerada was surprised by the results. Seismic quality in 1998 suggested that the target comprised dipping Miocene reservoir rocks sealed by a salt weld. The well indeed drilled through a salt weld "capped" with

continued on page 33

Mesozoic Paleo Bathymetric Progression continued from page 32

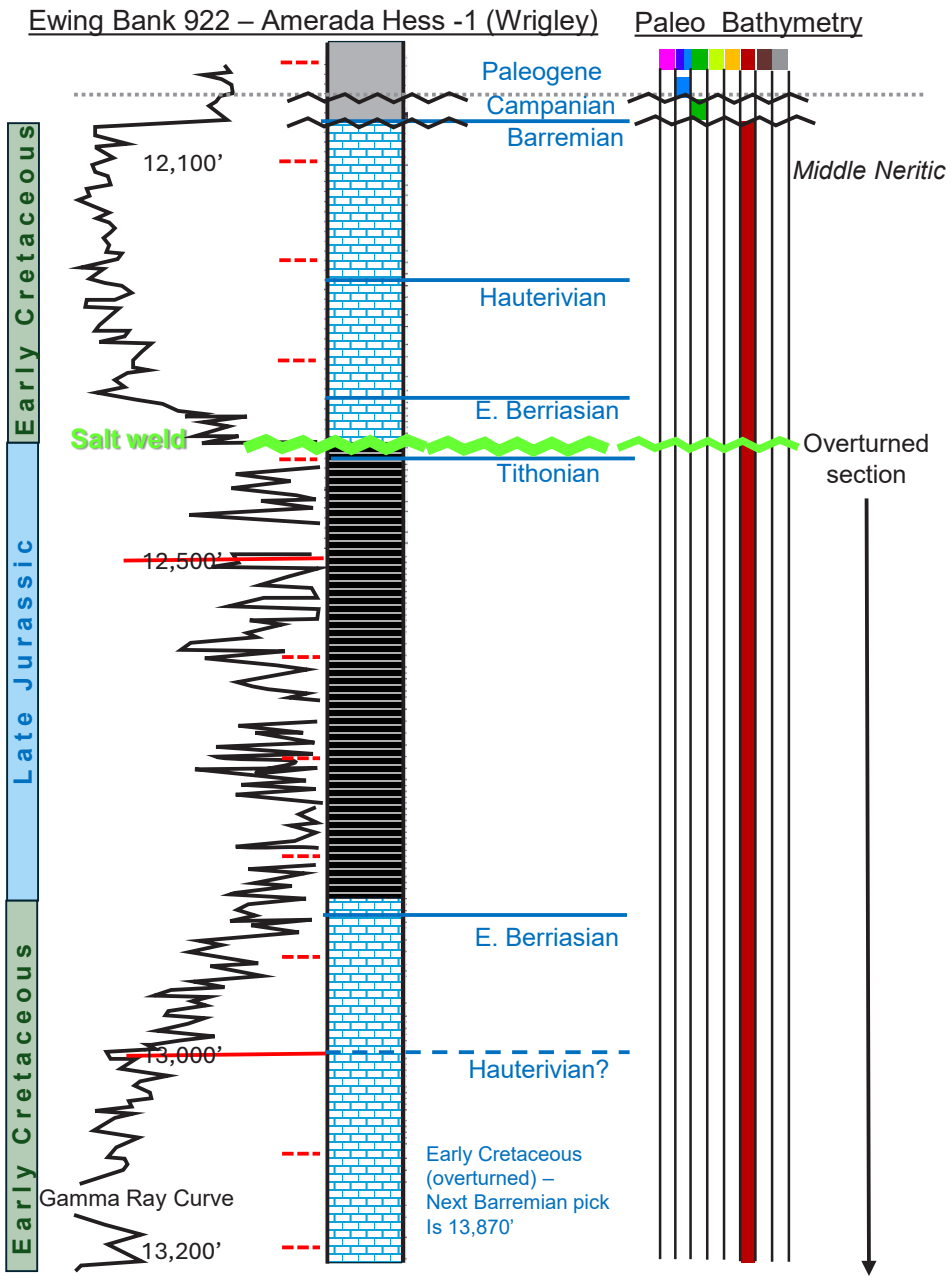

Figure 6 – *Prospect Wrigley drilled a salt weld above which carried a section of the Upper and Lower Cretaceous. Below the weld, all stratigraphy was overturned. The overturned Mesozoic section has a representative age range and thickness typical of a complete section. Below the overturned Mesozoic is a continuation of inverted stratigraphy to the well TD in the Early Miocene. The Jurassic section was highlighted in this figure because it was the oldest section.*

a first Mesozoic section of thin Upper Cretaceous, followed by an unconformity where Lower Cretaceous (Barremian through Berriasian) carbonates are found. At about 12,390 feet, the salt weld was drilled, and immediately below the weld, the well discovered that the rocks were overturned by salt, resulting in an inverted section (Olson, 2015). The overturned Mesozoic section has a representative age range and thickness typical of a complete section. Below the overturned Mesozoic, there is a continuation of inverted stratigraphy that includes first the Paleocene, followed deeper by Early Eocene Wilcox sandstones, then Oligocene and Early Miocene, where the well reached a total depth of 16,380 feet.

According to the report released by Paleo Data, the overturned Mesozoic section starting in the Tithonian was deposited at a middle neritic water depth. Although **Figure 6** shows only the Jurassic and part of the lower Cretaceous, the well continued to drill "up section," finding outer neritic in the Aptian and upper bathyal in the upper Cretaceous, with a mid-bathyal call in the Eocene. The Jurassic section was highlighted because it was the oldest section.

SUMMARY

The article uses a map to illustrate the major elements present during the Mesozoic period. Some of these elements include the limit of Louann salt deposition on the northern side of the oceanic crust, a line of vertically stacked Cretaceous Shelf Margins, and Cretaceous and Jurassic well penetrations (**Figure 1**). Several key wells are situated far basinward near the edge of the current oceanic crust and were detailed in this article. These wells penetrated Jurassic and Lower Cretaceous sediments deposited in inner neritic to outer neritic water depths, deepening to upper and mid-bathyal by the Upper Cretaceous. These paleo water depths suggest a continuation of shallow water environments contemporaneous with the end of the Louann salt deposition.

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Mesozoic Paleo Bathymetric Progression *continued on page 34*

Mesozoic Paleo Bathymetric Progression continued from page 33

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WELCOME TO NEW MEMBERS, EFFECTIVE APRIL 2025

ACTIVE MEMBERS

Seth Fankhauser

Valeri Shelokov

David A. Wallace

Elan Yogeswaren

STUDENT MEMBER

Emma Mroz


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1924

HGS ENVIRONMENTAL & ENGINEERING DINNER MEETING

Laboratory 101, Project setup, and Field Tips

Join us to learn more about laboratory terminology, TRRP and QA/QC acronyms, Analytical project setup, Sample kit and Field Tips from the laboratory's perspective.

May 14, 2025

Los Tios Restaurant (9527 Westheimer RD)
Social 5:30 p.m.
Dinner 6:30 p.m.
Presentation 7:30- 9:00pm

Cost

$35
Pre-registered members

$40
Non-members & Walk-ups

REGISTER NOW

Shannon Tyrell-Swadi

HGS General Dinner Meeting

Monday, May 12, 2025

5:30 – 8:00 p.m.

HGS Members/Emeritus/Honorary Life $20
Students $10 • Non-Members & Walkups $30
New location – Spanish Flowers
4701 N Main St. • Houston, TX 77009
https://www.hgs.org/civicrm/event/info?id=2580
Event Contact: Catie Donohue

Jeff Spencer

New Location and Prices!

Calling all members! We are excited to announce a special social event designed to engage and inspire our entire membership. Throughout this past year, we've repeatedly heard from speakers and panelists on the importance of context and messaging for our industry. To help us dive deeper into this, we are welcoming Jeff Spencer, an Oil Historian. All geoscientists know that the present is the key to the past, but as energy explorationists and producers, we often rely on our understanding of the past to guide our actions today.

The event will be held at a convenient central Houston location and the price includes drinks and light bites (no formal dinner this time). The presentation begins promptly at 6:00 PM, but we invite you to join us for a drink starting at 5:30 PM. Don't miss this informative and social evening — register now at HGS.org!

The Challenges of an Oil Historian in the 21st Century

Our guest speaker will address the current challenges surrounding communication and the preservation of the oil industry's legacy. He will provide valuable historical context and offer insights that will help us better position ourselves as representatives of the energy sector. This is a great opportunity to reflect on our shared history while learning strategies to more effectively tell our story moving forward.

ABSTRACT

Industry practices of the late 19th and early 20th centuries were very different from the practices of today. Photographs of early oil gushers, earthen storage tanks, and oil field fires are abundant and cannot be ignored when presenting petroleum industry history, but they need to be placed in their historical context. The "shooting of a well" was successful if it resulted in an oil gushing over the top of a derrick. Early tourists would take weekend train excursions to picnic in view of a lit "gasser." Early petroleum-related photographs were sold as stereoviews and cabinet cards. These were replaced with postcards. The early 1900s saw a craze in sending and collecting postcards. Postcard views of these early oil gushers, gassers, and fires were purchased and mailed throughout the world.

MAY 2025

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1	2	3
4	5 **Offshore Technology Conference** *https://www.hgs.org/civicrm/event/info?id=2582*	6	7	8 **Spring 2025 Energy Professionals Hiring Event** *Page 11* *https://www.hgs.org/civicrm/event/info?id=2642*	9	10
11	12 **HGS General Dinner Meeting** *Challenges of an Oil Historian in the 21st Century* *Page 37* *https://www.hgs.org/civicrm/event/info?id=2580*	13	14 **HGS E&E Dinner Meeting** *Laboratory 101, Project setup, and Field Tips* *Page 36* *https://www.hgs.org/civicrm/event/info?id=2616*	15	16	17
18	19 **HGS Continuing Education** *Carbonate Reservoir Characterization with Lucia Petrophysics* *Page 26* *https://www.hgs.org/civicrm/event/info?id=2650*	20	21	22 **New Energies Committee Luncheon** *TBD* *https://www.hgs.org/civicrm/event/info?id=2602* **HGS NeoGeos Happy Hour** *https://www.hgs.org/civicrm/event/info?id=2633*	23	24
25	26	27	28	29 **HGS Continuing Education** *Analytical Organic Geochemistry for Energy and Environmental Applications* *Page 27* *https://www.hgs.org/civicrm/event/info?id=2651*	30	31

Make your reservations online at hgs.org

RESERVATIONS The HGS prefers that you make your reservations online through the HGS website at WWW.HGS.ORG. If you have no internet access, you can e-mail OFFICE@HGS.ORG, or call the office at 713-463-9476. **Reservations for HGS meetings must be made or cancelled by the date shown on the HGS website calendar, normally that is 24 hours before hand or on the last business day before the event**. If you make your reservation on the website or by email, an email confirmation will be sent to you. If you do not receive a confirmation, contact the HGS office at OFFICE@HGS.ORG. Once the meals are ordered and name tags and lists are prepared, no more reservations can be added even if they are sent. **No-shows will be billed.**

INSTRUCTIONS TO AUTHORS

Materials are due by the first of the month for consideration to appear in the next month's publication. Submissions should be emailed to editor@hgs.org. The Editor reserves the right to reject submissions or defer submissions for future editions.

Text should be submitted as a Word file. Figures or photos may be embedded in the document or submitted separately. The following image formats are accepted: tif, .jpg, .png, .psd, .pdf.

Feature submissions, e.g., Rock Record, should be approximately 600 words. Technical papers should be approximately 2000 words or less (excluding references).

NeoGeos 2025 Happy Hours

FEB 20
UH AAPG WILDCATTERS NIGHT
Kirby Ice House
(3333 Eastside St.)

MARCH 20
IMPAC - EXPLORATION SERVICES
Corn Hole Tournament
Eleven Below (Spring, TX)

APRIL 17
INTERTEK
Trivia Night
Location TBD

MAY 22
CORE GEOLOGIC
Members Drink Free
Kirby Ice House
(1015 Gessner Rd.)

JUNE 19
CO-SPONSORSHIP AVAILABLE*
Intern Night
Cottonwood

JULY 17
SPONSORPSHIP AVAILABLE
Location TBD

AUG 21
SABATA ENERGY CONSULTANTS
Platypus Brewing

SEPT 18
GVERSE-GEOGRAPHICS
Trivia Night
Location TBD

OCT 16
GEOMARK & PETRICORE
Pickleball Tournament
PKL Social

NOV 13
SPONSORSHIP AVAILABLE
End of Year Celebration
Location TBD

ALL EVENTS 6-9PM

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Shrimp Peel & Crawfish Boil – May 4, 2025

By Michael Salzaar

This year's Shrimp Peel & Crawfish Boil was a huge success. Attendance and sponsorship have both been rising each year since COVID, and this year was a record breaking event. We had 172 folks in attendance and 14 sponsors. The event was held at Bear Creek Park, Pavillion 6.

Despite the decline in the oil and gas market, HGS has been blessed with continued support from service companies and operators alike. Volunteers, vendors, sponsors, DJ and cooks all stepped up to ensure everyone had a great time.

Next year will be bigger and better than ever, as we've already received commitments from several companies to support this great event.

ATTENDANCE 172+
381 POUNDS OF CRAWFISH
160 POUNDS OF SHRIMP

COOKS: DERRICK WHITING
KEITH PEOPLES

14 SPONSORS:

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MERCENARY SALES
PRECISIONS WELL LOGGING
STRATOCHEM SERVICES, NORTH AMERICA INC.

Keith Peoples, Cook

Mike Salazar Committe Chair_Derrick Whiting Cook

GeoGulf 2025 in Nacogdoches

By Paul Britt. Thanks to General Chair Dr. Julie Bloxson, Technical Co-Chairs Kurt Ley and Kevin Hill, GCAGS President Hunter Carr, and GCSSEPM Chair Milly Wright.

The 74th GeoGulf 2025 (formerly GCAGS) was hosted by the East Texas and Shreveport Geological Societies this year and took place on the campus of Stephen F. Austin State University in Nacogdoches. The HGS, as a member of the GCAGS society, attended in force, with an exhibit booth at the entrance to the exhibit hall. HGS members Magly Cabrera, Judy Schulenberg, Catie Donohue, and I staffed the booth. The HGS booth signed up new members and renewed current and lapsed members on-site.

The convention was a resounding success, chaired by Julie Bloxson, and featured three concurrent technical sessions, a core workshop, networking events, luncheons, evening activities, short courses, poster sessions, field trips, and a golf tournament. There were 366 attendees, including registrants, guests, students, and exhibitors. Presenters hailed from various Gulf Coast member societies, including HGS members Deborah Sacrey, Bill DeMis, Linda Sternbach, and Jon Rotzien, among others. Many of the registrants and vendors were also HGS members.

The following note is from Julie Bloxson: "*I am so grateful for all the help and support surrounding this year's event, from the committees to the speakers to the sponsors and exhibitors. Without the support from everyone who attended, it would not have been possible to have such an incredible event. Our goals this year were to showcase our incredible basin, create a comfortable and cozy environment that fostered dialogue, collaboration, and networking, and to support our future geoscientists. I think we hit our goals and then some.*"

The 75th GeoGulf 2026 will be held in Baton Rouge next year and be jointly hosted by the New Orleans, Lafayette, and Baton Rouge Geological Societies. I hope to see many of you there! ■

GeoGulf Nacogdoches Conference *continued on page 43*

Beverly Dejarnett, BEG with cores

Convention Luncheon speaker Dr. Lorena Moscadelli, Director of the Bureau of Economic Geology.

GeoGulf 2025 Nacogdoches Conference continued from page 42

Molly Turko and Deborah Sacrey (AAPG President)

AI Panel discussion with Deborah Sacrey, David Thul, Jessica Pair, Ceri Davies and Travis Hagler

MONDAY NIGHT PARTY

GeoGulf Nacogdoches Conference *continued on page 44*

GeoGulf 2025 Nacogdoches Conference continued from page 43

Candidates for the 2025–2026 Executive Board

Houston Geological Society Officer Election

THE CANDIDATES PUT FORTH BY THE NOMINATIONS COMMITTEE ARE:

President-Elect: Matthew Cowan, Bryan Guzman

Vice President: Allison Barbato, Caroline Wachtman

Secretary: Bryan Bottoms, Troy Meinen

Treasurer-Elect: John Bishop, Andrea Reynolds

Editor-Elect: Sharma Donamraju

Directors (2 positions):
Bill DeMis, Amanda Johnston, Kenneth Mohn, David Perez

HGS ELECTION VOTING INSTRUCTIONS

HGS Members will be able to vote online via the HGS website. You must be logged into your account to cast your vote. Ballots will be online only - no mailed ballots! Please check the HGS website in the coming weeks for updates and announcements.
PLEASE VOTE

THE VOTING PERIOD OPENS APRIL 10, 2025 AND CONTINUES TO MAY 10, 2025.

President-Elect (two candidates)

Matthew R. Cowan

Education
MS Geology, Texas A&M – Kingsville – 2000
Secondary Earth Science Certification – Texas A&M – Kingsville – 1994
BS Geology with a minor in Mathematics, Texas A&I University – 1993

Licensure
Louisiana Licensed Geologist - Geology – 2013 to Present.
Texas Licensed Geoscientist – Geology 2003 to Present
TCEQ Corrective Action Project Manager – 2005 to Present
Texas Certified Secondary Earth Science Teachers License – 1994 to Present

Employment
Chief Geologist Terrain Solutions Inc 2010-Present
Chief Geologist Lone Star Environmental 1997-2010
Staff Geologist LSI Environmental 1996-1997

Houston Geological Society Officers or Committees Activities
Houston Geological Society Environmental and Engineering Committee – Chair 2007-Present
Houston Geological Society Groundwater Hydrogeology Short Course – Committee Member 2019
Houston Geological Society Big Bend State Ranch Field Trip – Co-Chair 2019
Houston Geological Society Surface Faults of West Houston Field Trip - Committee Member 2019
Houston Geological Society Flooding in Southeast Texas: The Science Behind the Floods Conference – Committee Member 2018

Matthew R. Cowan *continued on page 52*

Bryan Guzman

Education
2008 – BS Geology University of Texas at San Antonio
2018 – MS Analytics Texas A&M University

Experience
2008 – 2011 Geologist - Ingrain Inc.
2011 – 2013 Geoscientist - Ingrain Inc.
2014 – 2015 Product Champion – Drill Cutting Technologies – Ingrain Inc.
2015 – 2017 Geologic Advisor – Ingrain Inc.
2017 – 2018 Senior Technical Advisor – Halliburton
2018 – 2019 Senior Account Manager – TGS
2019 – Present Veilvox LLC - Founder
2020 – 2021 Senior Account Manager – Premier Corex
2021 – Present Director Global Business Development & Technology – Premier Corex

Professional Affiliations
HGS, AAPG, SPE, SPWLA, GCAGS

Professional Activities
2011 – 2017 HGS Chairman Exhibits Committee
2013 – 2014 HGS Secretary
2015 – 2016 HGS Treasurer Elect
2016 – 2017 HGS Treasurer
2017 – Present HGS Advertising Committee Chairman
2018 – 2019 GCAGS Houston Treasurer
2019 – Present GCAGS Treasurer
2020 – 2021 HGS Vice President
2022 – 2023 GeoGulf Treasurer

Bryan Guzman *continued on page 52*

Candidates for the 2025–2026 Executive Board *(continued)*

Vice President (two candidates)

Allison Barbato

Biography

Dr. Allison Barbato is an exploration geologist with a diverse international background and a passion for inspiring others to succeed in the petroleum industry. Born in Lafayette, Louisiana, she spent 15 years abroad in Indonesia, Brazil, the Netherlands, and Egypt, an experience that shaped her global perspective and deep appreciation for geology. Inspired by her father's career as a petroleum engineer, she developed a strong enthusiasm for the earth sciences and a commitment to bringing people together within the industry. Dr. Barbato earned her B.S. in Geology from Louisiana State University (LSU) in 2018, where she continued her academic journey, completing her Ph.D. in 2024. Her doctoral research integrated biostratigraphy, geochemistry, and organic petrography to reconstruct the paleoenvironments of Eocene-aged deltaic systems in Coos Bay, Oregon, while assessing their hydrocarbon potential.

During her time at LSU, Dr. Barbato served as President of the LSU AAPG student chapter, where she successfully increased membership by 400% during the COVID-19 pandemic and mentored students toward career opportunities in the petroleum industry. She was an eight-time recipient of the Houston Geological Society (HGS) Calvert Memorial Scholarship and gained industry experience through internships with Hess and Chevron. Upon completing her PhD in 2024, Dr. Barbato joined Chevron in Houston, Texas, as an exploration geologist working in the Gulf of Mexico. She remains actively involved in the geological community, serving as an Associate Editor for the *AAPG Bulletin* and as the 2025 co-chair, and 2026 Chair, for the HGS Scholarship Night.

Interest in Serving on the HGS Board

I am honored to be considered for the role of Vice President of the Houston Geological Society (HGS), an organization that has been instrumental in my personal and professional growth. As an eight-time recipient of HGS Calvert Memorial scholarship during my undergraduate and graduate studies, I have experienced firsthand the society's dedication to supporting geoscience students and fostering industry excellence. Now, as an exploration geologist at Chevron and the HGS Scholarship Night Chair, I am eager to give back to this community that has played such a significant role in my development. HGS unites a diverse geoscience community through high-quality technical talks, educational initiatives, and scholarships. I aim to leverage

Allison Barbato *continued on page 52*

Caroline Wachtman

Biography

Caroline Wachtman is the Carbon Certification Lead for Oxy and is based on Houston. Previously, she spent 15 years with ExxonMobil, where she led multiple cross-functional teams identifying and evaluating resources throughout West Africa, the Caribbean and Caspian regions. In 2021, she held roles at energy start-ups before joining Oxy in 2022 to lead regulatory certification efforts for carbon storage projects. Caroline is a licensed Professional Geologist with a MS in Geology from University of Wisconsin-Madison and a BS in Geology from College of William and Mary.

Wachtman serves in multiple leadership roles for geoscience professional societies. Currently, she co-chairs the CCUS Event, an annual conference sponsored by AAPG, SEG and SPE and she co-chairs the Carbon Management Pavilion at the IMAGE Conference (AAPG and SEG). Wachtman chaired the Africa Conference for HGS in 2022 and served on the HGS board from 2022-2024, including a term as 2023-2024 Editor of the HGS Bulletin. She was awarded the HGS President's award in 2023 and HGS Outstanding Board Member in 2024.

In addition to professional service, Caroline co-leads a mentoring circle for the Women's Energy Network and serves on the steering committee for the United Way of Greater Houston's Women's Initiative. She is a Girl Scout troop leader for 28 girls, including her two daughters.

Why I Want to Serve the HGS

Supporting the profession of geology and volunteering in my community are two of my core values. I would like to volunteer for my geoscience community and profession by serving the HGS as Vice President. There are three key reasons why I'd like to continue serving the HGS:

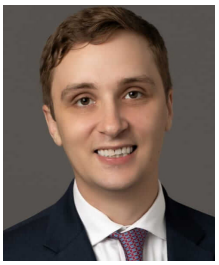
I know from first-hand experience that every HGS volunteer can have a meaningful and measurable impact on the Society.

I have the skills and capabilities to excel at the Vice President's role. I will bring nearly 20 years of professional experience and network connections to deliver content that appeals to a wide range of HGS members.

I look forward to building a future where more early and mid-career geoscientists are eager to become HGS members. I'm well-equipped to demonstrate the value of HGS to the next generation. ■

Candidates for the 2025–2026 Executive Board *(continued)*

Secretary (two candidates)



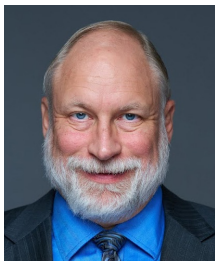
Bryan Bottoms

Education & Certifications
P.G. State of Texas, License # 15091
MS University of Arkansas; 2017
BS University of Arkansas; 2012

Employment History
Analyst, Associate, VP, & Director (Current) – Geology, Detring Energy Advisors, Houston, TX – 08/2019 – Present
Associate Geologist – Tapstone Energy, Oklahoma City, OK – 10/2017 – 08/2019
Graduate Student, Teaching Assistant, and Research Assistant - University of Arkansas, Fayetteville, AR – 08/2015-10/2017
Field Geologist/MWD Engineer – Chesapeake Energy/77 Energy – Oklahoma City, OK - 02/2013-05/2017

Previous HGS Officers or Committees
NeoGeos Committee Chair – 04/2022 – 05/2024

Candidate Statement
I am honored to accept the nomination for the HGS Secretary. I have spent the past few years becoming increasingly involved in the HGS organization, recently serving as the NeoGeo Committee Chair from 2022 through 2024. As the NeoGeo Committee Chair, I hosted monthly Happy Hour and Trivia events targeted at increasing member involvement among early career geologists. While serving as chair, the NeoGeos committee was revitalized, and once again hosts regular monthly events after languishing during covid. Under my leadership we increased sponsorship outreach and boosted event turnout and revenue for the society. I have since passed the torch to a new group of NeoGeos Chairs, and they have continued the amazing growth in turnout and sponsorship. In addition to serving as NeoGeos chair, I have volunteered at numerous events such as the education outreach in elementary schools program targeted at teaching local elementary students about rocks and fossils, serving as a poster judge for the annual Sheriff Lecture event, and serving as a judge at the 2023 Science and Engineering Fair of Houston on behalf of HGS. I'm excited for the opportunity to continue serving this organization in an increased capacity. By serving as Secretary, I hope to set an example among other early career geologists, encouraging them to become more involved with their local geologic society. I hope that my potential presence in the organization can bring some fresh perspectives and ideas to the organization that will benefit the society as we continue to adapt to an ever-changing world. ■



Troy W. Meinen

Education
MS Geology, Baylor University, 1996
BS Geology, Baylor University, 1993

Professional Affiliations and Registrations
Registered Professional Geologist in the States of Texas and Tennessee
Associate Safety Professional (ASP-25540)
American Society of Safety Engineers
Houston Geological Society

Candidate Statement
I am honored to be invited to stand for election as secretary of HGS Board. My past position as Director and current positions as treasurer and now co-chair of the Environmental and Engineering committee in HGS have been most rewarding to me and I welcome the opportunity to further serve my fellow Members should I be elected.

We are living in exciting but challenging times when our collective expertise as Geologists is more valuable than ever. Who better than Geologists to help todays leaders understand the complex nature of energy, the carbon cycle, natural disasters, and the impact of each on our world. My hope is that organizations like HGS will bring wisdom and sound scientific reasoning to decision makers in the many public arenas where we serve.

I am a Technical Director and Global Health and Safety Advisor with Environmental Resources Management (ERM) in Houston. Over my 28-year career, I have served as an environmental and health and safety consultant servicing global oil and gas, chemical, manufacturing, and mining companies. I have utilized my geological expertise to assist global oil and gas companies to understand and address contaminated ground water, soil and sediment issues. My background includes managing investigation and remediation of upstream oil and gas sites and assisting with due diligence for large oil and gas acreage position transactions for major oil and gas clients, which includes assessment of water use and protection, property transaction support, environmental impact assessment, environmental permitting and management, and Stakeholder concerns. I currently utilize my field experience to support teams globally in improving health and safety performance primarily within Global oil and gas companies.

Troy W. Meinen *continued on page 52*

Candidates for the 2025–2026 Executive Board *(continued)*

Treasurer-Elect (two candidates)

John Bishop

Brief Biography
John is an independent strategy consultant and transaction advisor to the upstream oil and gas sector. He began his career as an exploration geologist in the Gulf of Mexico division of Exxon. He later worked in First Boston's, Bear Stearns' and Wells Fargo's investment banking energy practices where he advised and completed M&A and financing transactions for numerous international and domestic companies. He has been a member of HGS since 2010 and has served on the North American and International Exploration Committees. John has BA and MS degrees in Geology from Colgate University and the University of South Carolina, respectively, and an MBA Finance degree from the University of Texas. He is also a current member of AAPG, SIPES, HEFG and EPG.

Interest in Serving HGS
I have been a member of the HGS for over 14 years and find its hosted talks, seminars and conferences to be very valuable. I also greatly enjoy the sense of comradery of the Society and its members. With HGS' long and storied history as an educational and professional networking hub for Houston area geology professionals, I believe it is imperative to contribute to its continuing success. I believe I can utilize my background in both geology and finance to effectively serve as HGS Treasurer (elect). ■

Andrea Reynolds

I am honored and excited to stand for the role of HGS Treasurer-Elect. Having previously served as Director and Vice-President earlier in my career, I am eager to continue giving back to this remarkable organization that has been instrumental in shaping my professional journey. After spending time working outside of Houston, this opportunity to once again serve HGS feels like coming full circle.

The role of Treasurer-Elect aligns closely with my experience, particularly my tenure at Shell, where I honed my skills in leadership, decision-making, and had P&L accountability for the Appalachia asset. I am an organized, high-energy individual with a passion to lead and drive meaningful impact". Throughout my career, I have been dedicated to supporting the HGS and AAPG communities by contributing my time, talent, and resources to foster professional growth, collaboration and improve membership value.

Having recently taken early retirement from Shell, I am now pursuing a variety of interests, including consulting, coaching, and cherishing time with my high-school twins before they embark on their college journeys. This new chapter has reignited my enthusiasm to serve HGS with fresh energy and focus. As Treasurer-Elect, I aim to strengthen HGS's financial foundation to ensure we continue offering outstanding technical content, continuing education, scholarships, and vibrant social networking opportunities for all members—new and longstanding. HGS has provided me with the foundation for a fulfilling and successful career, and it would be my great privilege to give back to our proud geological society and community.

Education and Certification
MS Geology, Texas A&M University
BS Geological Sciences, SUNY Geneseo
ICF Executive Coach, Coach Rice Executive program, Rice University
APM Chartered Project Professional

Professional Experience
2021 – 2024 GM Innovation & Improvement, Shell, Upstream & Deepwater
2018 – 2021 GM Business Transformation / BA to EVP, Shell Global Exploration
2011 – 2018 Exploration & Development Manager, Shell, Appalachia

Andrea Reynolds *continued on page 53*

Candidates for the 2025–2026 Executive Board *(continued)*

Director – Two-year term *Vote for two candidates*

Bill DeMis

I am honored to stand for the position of Director at the HGS. I will bring my 35 years of business experience to the Executive Board and strive to make the HGS economically profitable, scientifically relevant for all HGS members … and fun!

The critical strength I can bring to the HGS is a strong understanding of the financial challenges we face as a professional society, and HGS's need to continue to grow its outreach and appeal to all geoscientists.

My executive experience ranges from small independents to "big oil companies" to investment banking. I have held the positions of Exploration Manager at Marathon Oil Company, Exploration Vice President at Roxanna Oil Company (a local Houston independent oil-and-gas company founded by the late, great Maryln Downey), and Senior Vice President and Chief Geologist at Goldman Sachs here in Houston.

I am an active member of HGS. I actively participated in the Continuing Education Committee by teaching HGS classes and doing the logistical minutia of soliciting new teachers for HGS classes, finding event venues, and even picking up the bagels and coffee for the class's morning breakfast.

I have received the HGS President's Award and the HGS Chairman's Award for my service to HGS. I have also received the dedicated Service Award from the AAPG and the West Texas Geological Society.

I currently run a consulting company. I am an angel investor in a major domestic start-up where we aspire to drill some very important wildcat wells in the Gulf Coast. I like to look at deals and participate in oil wells. I also generate my own prospects for fun and, rarely, for profit.

Thank you! ■

Education
BS Geology and Geophysics, The University of Wisconsin at Madison, 1980
MS Geology, The University of Texas at Austin, 1983

Amanda Johnston

Professional Bio
Amanda is a dedicated exploration geologist with a strong passion for volunteering. Amanda has contributed significantly to the growth and success of major energy companies. She is currently serving as an exploration geologist at TotalEnergies and she spent five years at Hess Corporation, where she gained valuable hands-on experience in exploration, development, and operations across a variety of basins.

In addition to an exciting professional career, Amanda has been deeply committed to volunteerism and professional development within the geoscience community. A longstanding member of the Houston Geological Society (HGS), Amanda has served on the Student Expo Committee for over seven years, culminating in leadership roles as Vice Chair (2020) and Chair (2021-2023). During this time, she helped orchestrate one of the most impactful student-focused events in the country that also bolstered the HGS balance sheet. Additionally, Amanda served as Secretary on the HGS Board of Directors from 2022 to 2023, contributing to the membership and governance of the society.

Recognizing her dedication to the geological community, Amanda was honored with a position in the AAPG House of Delegates, where she will serve from 2023 to 2026, advocating for the interests of gulf coast geoscientists and the future of the profession. Amanda is also a member of the IBA Committee, where, as Education Coordinator, she organized foundational seminars that supported students worldwide in their pursuit of careers in the petroleum, geothermal, and CCS industries.

In addition to these roles, Amanda is passionate about community outreach and education. She organized the AAPG Bufalo Bayou Educator's Hike, a program that provides K-12 teachers in the Houston area with valuable resources and tools to enhance their teaching of geoscience and environmental topics in local classrooms.

With a commitment to professional excellence and service, Amanda continues to make meaningful contributions to both the energy sector and the broader geoscience community. ■

Candidates for the 2025–2026 Executive Board *(continued)*

Director – Two-year term *Vote for two candidates*

Kenneth Mohn

I am interested in serving on the Board of the Houston Geological Society as HGS Board Director for the 2025-2026 term. I have served as Secretary and have been involved as a volunteer in the HGS over time. My goal is to support the HGS and continue the work that benefits the Members of the Society.

Ken has Bsc Geology, Msc Geology degrees

Currently, he is a founder and director of Mohn & Associates LLC. formed in 2018 were is working on Working on Multi-Client and Proprietary onshore and offshore seismic acquisition design, operations supervision, and processing projects:
- Developing onshore and offshore 2D and 3D surveys.
- Data Brokerage Sales of seismic data
- Consulting on seismic data acquisition and processing projects
- Sales of oil and gas Prospects developed by others.
- Working with a team developing prospects.
- Client representative for several companies.

In the past, Ken was a Managing Director and Vice President of Multi-Client Geophysical for NSA during 2013-2018,
As an Exploration Vice President, at Fugro, he started the Multiclient Services group for North and South America 2002-2012, where he grew the seismic library, with offices in Houston and Brazil, to over 290,000 Km of seismic data (both 2D and 3D data).
Prior to this, he worked in Business Development and Marketing Management at TGS Geophysical, from 1987-2002.
His international and domestic projects cover the Gulf of Mexico, onshore Canada, offshore Africa, and Latin America, where he designed and acquired Multiclient surveys for oil and gas exploration companies with a major focus on Quality in acquisition and processing. ■

David Perez

Two years ago, I noticed that HGS had not hosted its annual skeet shoot in some time. After discussing the matter with the previous Chair of the Skeet Shooting Committee, he mentioned that he no longer had the time to oversee the event due to other commitments. He asked if I would be interested in stepping in, and I agreed—on the condition that we switch the venue to Sporting Clays. He was on board, and as a result, we launched the first HGS Annual Sporting Clays event two years ago. It was a great success, offering a lot of fun, some hard work, and tremendous support from Andi Peoples. This last year was equally successful and well-attended. I am honored to now be nominated for the position of Director.

My career began as a Geologist with the Oil and Gas division of the Railroad Commission, where I gained foundational experience in all aspects of the Oil and Gas Industry including, drilling, production, blowouts, and well plugging. This led me the role of Project Manager at Harding Lawson Associates and Fluor Engineering, where I managed and executed complex environmental projects across the U.S.

I was recruited by British Gas to lead Environmental Impact Studies in Tunisia, Argentina, Trinidad, and Gabon for oil and gas operations. In 2004, I joined GlobalSantaFe/Transocean, where I created and managed their global Corporate Environmental Program. I played a pivotal role in scaling operations across 35+ countries, overseeing the establishment of environmental and operational programs that adhered to international and local regulations while aligning with corporate objectives. I led negotiations with Ministries of Environment and Petroleum to ensure the successful integration company programs into country specific initiatives. During this time, I also became a Fellow of The Geological Society and Chartered Geologist. I led Transocean's response to the Macondo Well Incident, spending four months at the command center in New Orleans.

In 2010, I transitioned to R360 Environmental Solutions as Corporate Vice President of Operations and Development, where I was responsible for operations across multiple U.S. states. I oversaw the management of oil-based cuttings and waste disposal, ultimately leading to the company's successful sale in 2012.

David Perez *continued on page 53*

Candidates for the 2025–2026 Executive Board *(continued)*

Editor-Elect (one candidate)

Sharma Dronamraju

Candidate Statement

It is a great honor to be nominated for the Editor-Elect position for the HGS *Bulletin* for 2025-26. I served HGS in various roles as Co-Chair of Continuing Education Committee, International Exploration Committee, and the Chair of Memberships for over 24 years with HGS. I have organized several one-day education symposiums and conferences (Geopressures, Coal Bed Methane, Reservoir Modeling), co-chaired an International Explorationists Conference, served and represented HGS interests on AAPG House of delegates, and offered Dinner Talks over these years. I am currently serving as Director on the Executive Board of HGS, for the second year.

In its 100th year, HGS has come a long way, with the *Bulletin* representing the face of the organization both before and after the internet era. The *Bulletin* maintained an active connection with its members, patrons, and sponsors. The *Bulletin* now is digital, consistent with times, and surprisingly resilient, with the most recent energy transition. This is largely due to the countless volunteer hours by many geoscientists, who have regular day jobs, and get involved purely because of the shared dedication to the profession we are in and the camaraderie.

My sincere regards to the previous geoscientists who graciously upheld these values and served various roles and responsibilities in the HGS, and managed the chronicles in the *Bulletin*. I am sure, I will learn a great deal here in the new role, from my predecessors and peers, on "behind the scenes" work that happens in getting the *Bulletin* online in a timely manner. I request your support and encouragement.

Sharma Dronamraju, MS, MBA, PG Bio

Sharma Dronamraju is a Geoscientist and Director, AKD Professional Solutions in Houston, Texas, USA. He worked for Petrobras USA, Marathon Oil, Halliburton, Landmark Graphics, Fugro, and ONGC for over 30 years in upstream oil and gas. His expertise lies in rejuvenating mature fields. He was associated with several deep-water developments and exploration appraisals in GoM, the Gulf of Thailand, Indonesia, deep-water Nigeria, Equatorial Guinea, and the South China Sea. Sharma's recent work includes Geomodeling for EOR in mature oil fields in Miocene Syn-rift clastics and carbonates and regional prospectively of Gulf of Suez, Egypt, heavy oil development in Powder River Basin in Lower Cretaceous incised valley fills (Newcastle Fm.), addressing subsurface heterogeneity of Mishrif Carbonates in Southern Iraq and reservoir modeling of HPHT fields in offshore East Malaysia and Borneo, and sub-salt interpretation, appraisal, and reservoir delineation of Lucius Field, GoM. Sharma's current focus is continental rift basins and their contribution to geoscience. He is also interested in Earth Observation, satellite imagery and processing, and future alternative fuels , and Geological Hydrogen exploration. He held several trainings in Mature Field development, Subsurface Fluid pressures, Field-scale High Resolution Sequence Stratigraphy, for target audiences and clients in the US, Middle East, and Asia; HGS and AAPG Technology Workshop in the US.

Mr. Sharma currently serves as Director on the Executive Board of HGS. He held previous roles with Continuing Education, International Explorationists, and Membership committees of HGS.

Sharma earned his Master's degrees from the Indian Institute of Technology, Texas A&M University, an MBA from Rice University, and a Diploma in Data Analytics and Machine Learning from MIT-Professional Education. He is a state-registered Professional Geologist in Texas. ■

Candidates for the 2025–2026 Executive Board *(continued)*

continued from page 45

Matthew R. Cowan—*Candidate for President-Elect*

Houston Geological Society (HGS) – Secretary 2011-2012
Houston Geological Society Environmental and Engineering Committee – Treasurer 2006-2007
Houston Geological Society Coastal Subsidence Conference – Committee Member 2005

Other Geological Society Associations or Committees

American Institute of Professional Geologists (AIPG) – Board of Director 2016 to Present
Association of Environmental and Engineering Geologists (AEG) – Secretary 2021-2023
Texas Association of Professional Geologists – President 2006-2018
Geo-Gulf – Session Chair - 2015
Geo-Gulf – Session Presenter – 2014

Candidate Statement

I have been a member of the Houston Geological Society since the Late 1990's as I was finishing up college. In 2005, I got involved volunteering with several committees; Environmental and Engineering Group and Continuing Education. Through that time, I got to meet a lot of people who expanded my knowledge of not only my specific field of geology but the greater world of geology. I understood the value of being involved in a Professional Society. I have served on statewide organizations relating to professional licensure, continuing education and involved with hosting conferences for the geological profession. That experience will help me be a Board of Director for the Houston Geological Society. It was a privilege to see the HGS turn 100.

If elected, I would continue to ensure that value is added through membership in the Houston Geological Society. That would be achieved by offering timely short courses that serves the needs of our profession. I would also work towards organizing more field trips to aid in expanding our knowledge of our area but the state as well. We are the Premier Geological Society and it would be an Honor to have your vote. ■

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Bryan Guzman—*Candidate for President-Elect*

2023 – Present HGS New Energies Chair

Statement

Ever since I joined the HGS, I have enjoyed the benefits of education, networking, and friendship. Currently, I am working with the GCAGS as Treasurer. For about 7 years, I spent much of my time working on the exhibits committee organizing the set-up and transportation of the HGS booth for various conventions throughout the year. When I served as HGS Secretary, it afforded me the opportunity to learn more about the many functions of the HGS. I was also exposed to the duties as the HGS Treasurer-elect and Treasurer where I witnessed the society's dedication to the various efforts through the annual budget. I was then given the opportunity to serve as the HGS Vice President during the COVID19 pandemic where I was able to schedule all our monthly technical talks digitally for the first time. Currently, I am chairing the HGS New Energies Group which meets regularly to discuss carbon sequestration, lithium extraction, geothermal, and other new areas where geoscientists play a key role in supporting projects. It has been a pleasure meeting many people along the way and I am thankful to the opportunities the HGS has provided me while serving as a Chairman, Secretary, Treasurer, and Vice President. It would be my great pleasure to serve in the capacity of HGS President Elect. ■

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Allison Barbato—*Candidate for Vice-President*

leadership experience as LSU AAPG Student Chapter President to keep HGS relevant and engaging for geoscientists at all career stages. By strengthening connections between students, early-career professionals, and industry leaders, I hope to enhance HGS's role as a hub for knowledge-sharing and professional growth. It would be an honor to serve the geologic community as Vice President of HGS. ■

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Troy Meinen—*Candidate for Secretary*

In my personal life I have served for more than 20 years as a mentor of students through my church and Scouting. Most recently, I have expanded my leadership experience through my service as the Chairman of a local Houston District of Scouting America and President of the University of Houston parents group.

I believe my technical experience in the oil and gas industry combined with my experience and leadership in HGS and other organizations has prepared me to help serve on the board of HGS as we continue in challenging times. ■

Candidates for the 2025–2026 Executive Board *(continued)*

continued from page 48

Andrea Reynolds—*Candidate for Treasurer-Elect*

2009 – 2011 Team Lead, Shell, Mid-Bossier / Haynesville
2008 – 2009 Strategy & Portfolio Advisor, Shell, Americas Exploration
2002 – 2008 Senior Exploration Geoscientist, Shell – Brazil, Alaska
1998 – 2002 Exploration Geoscientist, HESS – Gulf of Mexico, North Dakota

HGS Service

Member since 1999
Vice-President, 2006 - 2007
Director, 2003-2005
HOD Delegate
Founder and Chair of NeoGeos young professional network, 1999
Chair and member of multiple committees, 2000's

Other Professional Associations

Reynolds is a longtime member of AAPG, and has served in leadership and volunteer roles, beginning with President of the Texas A&M AAPG Student Chapter, and more recently as VP and President of 2 AAPG divisions (DPA, EMD), the Advisory Council, and the Reimagine Committee. She has also served as Chair and member of multiple AAPG and HOD committees and 2011 ACE Technical Program. She is also an active member of the Association of Project Management (APM) and the International Coaching Federation (ICF). ■

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David Perez—*Candidate for Director*

In 2013, I joined LUKOIL International Upstream, where I managed Operations and Environmental programs across Africa, Europe, and the Americas. I was responsible for ensuring operations and environmental compliance, and driving operational efficiencies across diverse international teams. I led the company's efforts in navigating internationals and local regulatory landscapes of multiple countries, fostering cross-border collaboration to optimize performance.

Currently, I apply my expertise in scaling operations to guide innovative start-ups. I serve as an Advisor for Reformed Energy, a company that uses plasma gasification to convert organic waste into synthetic gas, and also serve as a Principal Consultant for vPSI Group, leading high-impact environmental projects. Additionally, as Co-Founder and CEO of CherAmi Digital, I lead a team dedicated to leveraging stranded and vented gas to create energy for Bitcoin mining, with a focus on scaling sustainable energy solutions.

EDUCATION

Master of Science, Geology (Hydrogeology/Geochemistry) Texas A&M University, Kingsville
Bachelor of Science, Geology, Texas A&M University, Kingsville
Wharton Business School – Executive Presence and Leadership

REGISTRATIONS

Licensed Professional Geoscientist, Texas 3078
U.K. Chartered Geologist (CGeol)
Fellow of the Geological Society of London

PROFESSIONAL MEMBERSHIPS

International Association of Drilling Contractors (Chaired Environmental Affairs Committee)
Houston Geological Society
Houston Society of Petroleum Engineers
Houston Geophysical Society

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HGS Membership Application

Houston Geological Society
14811 St Mary's Lane Suite 250 Houston
TX 77079
Phone: (713) 463-9476
Email: office@hgs.org

Active Membership

In order to qualify for Active Membership you must have a degree in geology or an allied geoscience from an accredited college or university or, have a degree in science or engineering from an accredited college or university and have been engaged in the professional study or practice of earth science for at least 5 years. Active Members shall be entitled to vote, stand for election, and serve as an officer in the Society. Active Members pay $36.00 in dues.

Associate Membership

Associate Members do not have a degree in geology or allied geoscience, but are engaged in the application of the earth sciences. Associate Members are not entitled to vote, stand for elections or serve as an officer in the Society. Associate Members pay $36.00 in dues.

Student Membership

Student membership is for full-time students enrolled in geology or an allied geoscience. Student Members are not entitled to vote, stand for elections or serve as an officer in the Society. Student Member dues are currently waived (free) but applications must be filled out to its entirety. Student applicants must provide University Dean or Advisor Name to be approved for membership.

Membership Benefits

Digital HGS Bulletin

The HGS Bulletin is a high-quality journal digitally published monthly by the HGS (with the exception of July and August). The journal provides feature articles, meeting abstracts, and information about upcoming and past events. As a member of the HGS, you'll receive a digital copy of the journal on the HGS website. Membership also comes with access to the online archives,with records dating back to 1958.

Discount prices for meetings and short courses

Throughout the year, the various committees of the HGS organize lunch/dinner meetings centered around technical topics of interest to the diverse membership of the organization. An average of 6 meetings a month is common for the HGS (with the exception of July and August). Short courses on a variety of topics are also planned throughout the year by the Continuing Education Committee. These meetings and courses are fantastic opportunities to keep up with technology, network, and expand your education beyond your own specialty. Prices for these events fluctuate depending on the venue and type of event; however, with membership in the HGS you ensure you will always have the opportunity to get the lowest registration fee available.

Networking

The HGS is a dynamic organization, with a membership diverse in experience, education, and career specialties. As the largest local geological society, the HGS offers unprecedented opportunities to network and grow within the Gulf Coast geological community.

Please fill out this application in its entirety to expedite the approval process to become an Active/Associate member of Houston Geological Society.

Full Name _____ Type *(Choose one)*: Active Associate Student

Current Email *(for digital Bulletin & email newsletter)*_____

Phone _____

Preferred Address for HGS mail_____

This is my home address _____ business address _____

Employer *(required)*_____ Job Title *(required)*_____ Will you volunteer? ____ (Y/N) Committee choice: _____

Annual dues Active & Assoc. for the one year *(July 1st-June 30th)* **$36.00**_____

Student **$0.00**_____

OPTIONAL Scholarship Contributions- Calvert/HGS Foundation-Undergraduate **$5.00**_____

Total remittance_____

Payment:

Check #_____

Credit card: V MC AE Discover

Credit Card#_____

CVV code (req'd): _____ Expiration: _____ (mm/yy)

Signature: _____ Date: _____

To the Executive Board: I hereby apply for membership in the Houston Geological Society and pledge to abide by its Constitution & Bylaws.

Company*(required, mark 'in transition' if unemployed)*_____

Company Address _____

City *(Work)* _____ **State** *(Work)* _____ **Postal Code** *(Work)* _____

School *(required)*_____

Major *(required)*_____ **Degree** *(required)*_____

Year Graduated _____

School *(optional)*_____

Major *(optional)*_____ **Degree** *(optional)*_____

Year Graduated _____

Years Work Experience *(required)*_____

Please submit a brief statement regarding your work experience in the practice or application of earth science or an allied science.

AAPG Member Number _____ OR

HGS Sponsor's Name _____

Signature: _____ **Date:**_____

Professional Directory

Consulting, Evaluate Prospects:
USA and International

Seeking Prospects: Coastal Texas

Victor H. Abadie III
Consulting Geologist

650.201.0528 • vic@montara.com
Post Office Box 81, Montara CA 94037-0081
AAPG/DPA, SIPES, Calif. Reg. Geologist, Tex. Reg. Geologist

Paul W. Britt, CPG, P.G. (TX, LA, AL)
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EMAIL: wthunderx@aol.com

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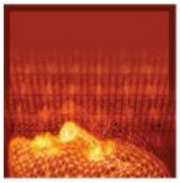

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+1 713-305-2091

tom.buerkert@rockhillresources.com

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The image is taken of the "Three Sisters" at the Monument Valley Navajo Tribal Park, Utah. The landscape is characterized by the erosional resistance of the Permian Chelly Sandstone. Photo courtesy of Ted Godo, photo taken in 2024.