



# Bulletin 1 2026

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Engineering Council of Houston (ECH) Liaison	Sue Pritchett	281-451-6522	pritchett.sue@gmail.com	D2



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## Houston Geological Society

Volume 68, Number 5

January 2026

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The Houston Geological Society Bulletin (ISSN-018-6686) is published monthly except for July and August by the Houston Geological Society, 14811 St. Mary's Lane, Suite 250, Houston, Texas 77079-2916. Phone: 713-463-9476.

**Editorial correspondence** and material submitted for publication should be addressed to the Editor, Houston Geological Society Bulletin, 14811 St. Mary's Lane, Suite 250, Houston, Texas 77079-2916 or to office@hgs.org.

**Subscriptions:** Subscription to a digital version of this publication is included in the membership dues (\$30.00 annually). The subscription price for non-members is \$160.00.



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**About the Cover:** The cover features Downtown Houston skyline at dawn, viewed from Midtown near the Freedmen's Town. Photo courtesy of Lucia Torrado.

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**Patty walker, HGS President 2025-26**  
pattywalker1@icloud.com

## President's Letter – January 2026

As we begin a new year, January offers a natural moment to reflect, reset, and—most importantly—renew our sense of geological curiosity. For me personally, exploration was the greatest puzzle of all. The challenge was never having all the data you wanted but having just enough to provide glimpses into what might be possible. From there, the real work—and excitement—began; building on those possibilities with other creative geoscientists, engineers, and commercial advisors to turn ideas into actionable business opportunities.

That journey did not end with an idea on paper. It continued through the anticipation of watching—and hoping—for those ideas to become reality as prospects were drilled. Along the way, we learned to celebrate successes and to learn quickly from failures, so we could begin the process all over again. I was reminded of this recently during an HGS lunchtime technical talk, when I recalled a conversation with a commercial engineering manager who once expressed how amazed he was that geoscientists could live so comfortably with so much uncertainty—especially when the probability of success was low. That willingness to embrace uncertainty, driven by curiosity and the possibility of what *could be*, is what pushes us to keep moving forward.

In many ways, this mirrors the experience of students and early-career geoscientists today. They, too, are navigating uncertainty—assembling limited data, testing ideas, learning from setbacks, and building confidence through experience. By sharing our stories, our questions, and our lessons learned, we help them see uncertainty not as a barrier, but as an invitation to explore.

At HGS, fostering geological curiosity remains central to our mission. One excellent example this month is **Case Studies Seminar II on January 15**. HGS and GSH are teaming up for

this premier one-day program—the second edition of a highly popular seminar last hosted in November 2024.

The Case Studies Seminar is a unique, all-day technical workshop in which twelve experienced geoscientists will recount how they found oil and gas during their careers and what they learned from their exploration and production experience. By sharing real-world successes, challenges, and lessons learned, these speakers provide insights that strengthen our ability to think critically, ask better questions, and apply experience-driven knowledge to new geological problems. This kind of shared learning is often where curiosity is sparked—and where professional growth begins.

### *At HGS, fostering geological curiosity remains central to our mission*

January also provides an opportunity to look back and appreciate the visionaries who built the foundations we stand on today. **Legends Night on Monday, January 12**, will feature Richard Stoneburner, whose career and contributions exemplify the curiosity, leadership, and dedication that have shaped both HGS and the broader geoscience community. Celebrating voices like his reminds us that progress in our profession is built not only on technical skill, but on imagination, persistence, and a passion for discovery.

As we look ahead, I am also pleased to share that in the new year we will be deploying an updated HGS website. This refreshed platform is designed to better serve our members, improve access to programs and resources, and make it easier for potential members to explore what HGS has to offer. The new site reflects our commitment to accessibility, engagement, and continued growth as a professional community.

Thank you for being part of the Houston Geological Society. I look forward to a year defined by curiosity, connection, and a shared commitment to advancing the geosciences—together. ■



**Lucia Torrado, HGS editor 2025-26**  
editor@hgs.org

## Here's to a Year of Discovery: in the Field and at Home

This month's Bulletin opens the new year with something a little different and a little fun on exploration: not in the traditional resource sense, but in the broader way geologists are explorers by nature. Our curiosity doesn't always require a distant field area or a remote basin; sometimes, exploration begins right where we live and work.

I recently had the opportunity to tour the tunnel systems of downtown Houston. Although I've lived in the city for several years, I had never worked downtown and was struck by the extent of the tunnels, the rich history behind many of the buildings, and the architectural framework, along with the interesting -and at times romantic- stories tied to their most visible details.

In the weeks that followed, while walking along one of Houston's bayous, I noticed a recently cleared meadow that - after a quick Google search on the spot - revealed one of the city's oldest African American historic cemeteries, long overlooked despite being hidden in plain sight. Shortly after, while driving along the Fourth Ward, exposed red bricks beneath modern pavement led me to the history of Freedmen's Town. Again, a quick internet search led me to the significance of those bricks, made from locally sourced clay. While it may seem surprising to associate Houston with quarrying because of the flat landscape and lack of nearby mountains, the cost-effectiveness of local brick manufacturing at the time made sense.

All of this is to say that geology is present in many aspects of our daily lives, the history that shaped our present and in the very buildings that surround us, as reflected by both the *Technical Article* and the *Featured Article* of this issue of the *Bulletin*. Centered on Houston, it highlights the many ways geology touches our city and our lives, reminding us that the study of rocks extends well beyond traditional resource exploration.

While this issue may step beyond what has traditionally appeared in the *Bulletin*, that's the beauty of geology: it spans far more than

*geology is present  
in many aspects of our  
daily lives*

a single discipline or setting. I would also like to invite our newest members to reflect on their professional New Year's resolutions and consider the *Bulletin* as a platform to share their work and ideas. Traditional technical contributions remain a cornerstone, and I also welcome stories that highlight curiosity, observation, and exploration in everyday settings.

Finally, I would like to sincerely thank all of the authors and contributors who have shared their time and expertise with the *Bulletin* so far in 2025. Your enthusiasm and generosity are what make this publication possible.

### IN THIS ISSUE OF THE BULLETIN

- **Geoscience Meets History from Above**

Muhammed Bugti, a researcher from the University of Houston, teaches us how drone photogrammetry (or "uncrewed aerial vehicles", UAV) technology is being applied to locate African American tombs in the Houston area, demonstrating how modern geoscience tools can illuminate cultural and historical landscapes in urban environments.

- **Reading the Rocks Where We Work**

Explore downtown Houston like never before with self-guided building stone tours curated by a local geologist. The article highlights structures where oil and gas companies currently operate or once had offices. Inspired by historic downtown tunnel tours, these loops offer both a staycation stroll and a geologic perspective on familiar streets.

- **Geo-Picks: A Pocket Geologic Map for Everyday Exploration**

Discover the RockD app, a mobile geologic tool that brings real-time maps, stratigraphic charts, geologic unit information, and age data to your fingertips, whether you're around town or on your next trip. This app is compatible with iOS and Android, and is one of my favorite apps on my phone. ■

# GSH/HGS CASE STUDY SEMINAR II

## Lessons from Missed Opportunities and Surprise Successes

Thursday, January 15, 2026  
Norris Conference Center, West Houston

One Day Conference with Real Life Exploration Stories!  
Learn from Senior Geoscientists!

Co-Chairs Katya Casey (GSH) and Linda Sternbach (HGS)



### Session 1 “Practical Paths to Informed Decisions”

- Systematic Exploration, Geologic Insight, Professional Networks, and Business Actions Leading to the Discovery of Unconventional Resources in The Permian Basin Wolfcamp Formation: Bill Fairhurst, Riverford Exploration
- Risking Exploration Prospects – Lessons from the Dark Side in Leadership and Practice: Mark Shann, Westlawn Americas Offshore
- Pendleton Field: A Case Study of the Horizontal Development of the Fractured Saratoga Chalk, Sabine Parish LA: Julie Garvin, Garvin Resources



### Session 2

#### “Look Back Studies and New Ideas In Mature Areas”

- The Sedimentology, Depositional History, and Reservoir Modeling of Zama Field, Offshore Mexico: Steve Cossey, Cossey and Associates
- Lessons from Understanding Structural Styles of the Central Graben in the UK and Norway: Rich Sears, Leading Energy Now
- Luncheon Speaker: Scot Fraser, Aurivos , “The Deep-Dive Entrepreneur: Fusing Technical Mastery with Strategic Value Creation”



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# CASE STUDY SEMINAR II

## Lessons from Missed Opportunities and Surprise Successes

Thursday, January 15, 2026, Norris Center, West Houston

### Session 3 “Development and Testing of the Working Models”

- The Opening Up of Mauritania Offshore: the Promise, a Discovery, the Disappointment, a Second Wave, and What Was Never Tested: Brian Frost, Retired, Anadarko
- The Importance of "Co-Opetition" Among Players - The Case of the Vaca Muerta Unconventional Play: Daniel Minisini, ExxonMobil; Fernando Sanchez Ferrer, GeoPark
- New Value from Old Wells – A Case for Revisiting Dry Holes: Matt Flannery, Stratum Reservoir



### Session 4

### “Integration Geophysics & Geology in Play-Based Portfolios”

- Reflecting on the Experience of an Exploration Project in Suriname – Lessons Learned from Seeing Both Sides of the Table: Scotty Salamoff, Bluware
- Understanding Strawn Deposition and Production in Southern Oklahoma Using Machine Learning: Deborah Sacrey, Auburn Energy
- Forensic Science in Geophysics: Unlocking the Value of Vintage Subsurface Data: Rene Mott, Empress Exploration



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OR the GSH webpage [www.gshtx.org](http://www.gshtx.org)

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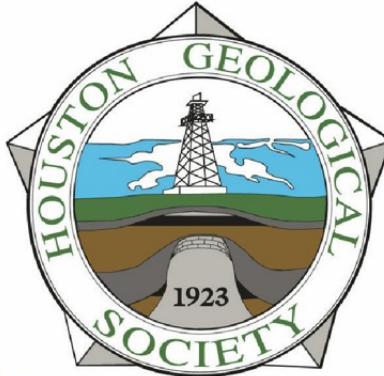
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# HGS GENERAL DINNER

## Keys To a Successful Career in Oil And Gas Exploration: Opportunism, Perseverance and Relationships (and Some Luck!)

Join us for an evening of candid conversation and career lessons with Richard Stoneburner, as he reflects on nearly five decades in oil and gas exploration and the lessons that shaped his career:

- Opportunism—acting decisively when opportunities arise
- Perseverance—persisting through challenges and setbacks
- Relationships—cultivating positive connections and avoiding harmful ones
- Luck—recognizing the role of good fortune and making the most of it

Richard Stoneburner is a renowned petroleum geologist with almost 50 years of experience in the upstream oil and gas industry. His career includes senior leadership roles at BHP Billiton Petroleum and Petrohawk Energy, advisory and board positions across multiple energy companies, and recognition such as the AAPG Outstanding Explorer of the Year (2016) and the 2025 Drake Legendary Oilman Award. He currently heads Stoneburner Consulting Services and serves on several boards and advisory groups.

**Monday January 12 | 5:30 – 8:30**

**Perry's, 9827 Katy Fwy, Houston, TX 77024**

**Cost: \$65 Members, \$75 Non-members, \$40 Students**

**Includes plated dinner and  
two drink tickets**



**CLICK HERE**

**Richard Stoneburner**





# HGS General Lunch



## **Petroleum Geology as a Science and Industry Unraveling the stratigraphic complexity of the Upper Miocene slope-channel systems at MP313, Gulf of Mexico Shelf: Leveraging reprocessed seismic to establish a new trend within a mature field**

ICantium began operating the GoM shelf MP313 field in 2017. A 2024 drilling campaign was launched to target a 25-acre amplitude anomaly in the H-10 Lower sand named Outforde. The target location was downdip from producers that went offline from low rates, high water cuts, or mechanical issues.

H-10 Sd fault block A production began in 1983 and totaled 3.1 MMBO and 4.1 BCF under water drive. Varying oil-water contacts, bottom-hole pressures, and drastic facies changes across the fault block alluded to complex drainage patterns. Our newly reprocessed seismic data revealed two distinct depositional episodes (Upper and Lower Members) of the H-10 sand package previously thought to be a single unit with multiple stratigraphic barriers.

**January 21, 2026**  
**11:30am - 1:00pm**  
**Murphy, 9805 Katy Freeway**

**Members: \$30**  
**Non-Members: \$35**  
**Students: \$25**



**Stefanie Frelinger**



**Luke Pierce**



**REGISTER NOW**



# Know the Rocks Where You Work: Downtown Houston's Building Stones

By Lucia Torrado

Have you ever walked through downtown Houston on your lunch break, past the towering offices of oil and gas companies -or the buildings that used to house them- and wondered what rocks those walls are made of? For many of those who work downtown, the geology beneath our feet and above our heads goes unnoticed... until you start to really look.

I was inspired to feature this in the Bulletin after participating in a historic downtown tunnel tour, which touched on some of the building stones and became curious about them. The walking tours themselves were created by Sheila Echols-Smesny, a geologist who works downtown; she noticed the same thing—that the stones in Houston's corporate buildings tell their own story. What began as lunch hour explorations became a suite of publicly available, self guided tours that take you through sedimentary, igneous, and metamorphic rocks, from travertine and limestone to granites from across the globe, now part of Houston's architectural fabric.

For this feature, I selected buildings from all six loops where oil and gas companies currently operate or once had offices, offering a curated glimpse at the materials shaping Houston's energy industry skyline. Since we've just come through the holidays, why not make your next staycation an urban geologic walking tour? Explore the tours below and bring your own hand lens next time you wander downtown!

Each building tells a story in stone... if you know what to look for.

## • CHEVRON FCU – 1600 Smith St.

### *Building/Pavement*

Granite/Granodiorite (grey intermediate intrusive igneous). Trade name: Color match best guess Coldspring Sierra White from Raymond, California (maybe McGilvray/Knowles?). Age: Early Cretaceous (111 My).



## LOOP SUMMARIES

### 1. City Hall Loop

Starts at Wells Fargo Plaza and circles key civic buildings. Rocks featured include larvikite (a feldspar rich igneous from Norway or Canada), granite with poikilitic textures, oolitic limestone, and classic Italian travertine. You'll see both ancient and more recent carbonates and igneous stones marking public and civic spaces.

### 4. Hyatt Loop

Covers buildings around the Hyatt area, showing a mix of granite types (from South Dakota and elsewhere), slate, and decorative stone panels. This loop shows how global stone selections were integrated into corporate centers and hospitality venues.

### 5. Jones Loop

Runs near Bayou Place and adjacent streets, highlighting a variety of building stones: sandstone and quartzite or marble mixes, garnet bearing granites (possibly St. Cecilia from Brazil), Barre Gray Granite, Italian travertine, and Sardinian pink granite. It illustrates the global sourcing of ornamental stones downtown.

### 2. Red Loop (Tunnels)

Follows parts of the downtown tunnel system, exposing stones not always visible at street level. Highlights include marble flooring, granite walls and accents, anorthosite, and travertine. This loop explains how tunnels reveal material continuity beneath the urban grid.

### 3. Teal Tunnel

Another tunnel oriented route, with rock exposures similar to those in the street level tours but often in different finishes or contexts. Expect fossiliferous limestone, marble, and occasional mafic igneous accents, great for seeing how these stones are installed and weather over time

### 6. (Yellow) Tunnel

Runs near Bayou Place and adjacent streets, highlighting a variety of building stones: sandstone and quartzite or marble mixes, garnet bearing granites (possibly St. Cecilia from Brazil), Barre Gray Granite, Italian travertine, and Sardinian pink granite. It illustrates the global sourcing of ornamental stones downtown.

# Know the Rocks Where You Work

## Building

Unpolished granite (quartz 20-60% and plagioclase 10-65%) to granodiorite (quartz 20-60% and plagioclase 65-90%) with uniform medium grained crystals, little to no weathering present.



## Pavement

Unpolished granite (quartz 20-60% and plagioclase 10-65%) to granodiorite (quartz 20-60% and plagioclase 65-90%) with uniform medium grained crystals, weathering present and concentrated around tile/block edges.



- **CHEVRON - 1400 Smith St.**

## Building Base/Pavement/Blocks

Formerly Enron building. Granite/Granodiorite (grey intermediate intrusive igneous). Trade name: Color match best guess Coldspring Sierra White from Raymond, California (maybe McGilvray/Knowles?). Age: Early Cretaceous (~111 My).



## Building Base/Pavement

Polished base/blocks and unpolished pavement is granite (quartz 20-60% and plagioclase 10-65%) to granodiorite (quartz 20-60% and plagioclase 65-90%) with uniform medium grained crystals, weathering present.



## Blocks

Polished; same or similar to building but appears newer with little to no weathering.



## Landscaping Rocks

Moss Rock: iron rich, well-sorted sandstone common as inexpensive landscaping material with weathered surface darker and richer red than fresh interior.



- **TOTAL PLAZA - 1201 Louisiana St.**

## Building/ Wall Accent

Granite (grey felsic-intermediate intrusive igneous). Trade name: Color matches to Coldspring Iridian from Minnesota Age: PreCambrian (1.8-1.75 gy). The Petroleum Club of Houston occupies the 35th floor of the Total Plaza.

## Know the Rocks Where You Work



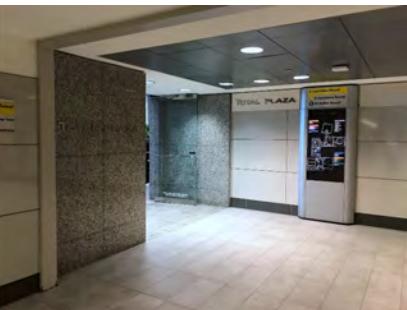
Close-up: uniform medium grained granite containing smoky quartz, plagioclase feldspar, hornblende, pyroxene



Travertine: formed by algae/calcium carbonate in hot springs, phytoherms (freshwater reefs) and thrombolite-stromatolites.

### *Flooring (Main)*

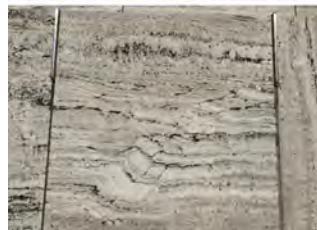
The center/main area of this walkway (the “Moon Room”) between the fossiliferous limestone transition tiles is alternating polished and unpolished and sealed diabase/gabbro containing small grained but just visible to naked eye dark minerals.



1. Stroms
2. Alternating Travertino Romano Classico and Travertino Romano Antico
3. Vugs



Close-up stromatolite patterns/precipitation growth dominant feature, some vugs partially to fully filled with more transparent cement.



### • ONE SHELL PLAZA – 910 Louisiana St.

#### *Building/ Pavement*

Travertine (continental, sedimentary). Building, pavement, cornerstones, and accent stones all travertine. Trade name: Travertino Romano from Tivoli, near Rome in Italy. Also known as Romano Classico or Travertine Classico and Travertino Romano Antico (darker varieties).

# Know the Rocks Where You Work

## Accent Tiles

Marble (white with grey veins, metamorphic)



## Walls

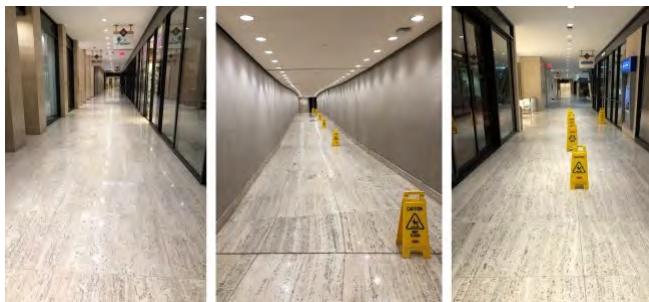


Observed: stromatolite patterns/precipitation growth dominant feature, some vugs partially to fully filled with more transparent cement.



## Tunnel between One Shell and Two Shell

Note: the tunnel between One Shell and Two Shell (next) was built diagonally to the streets above and connects to a short tunnel to the Lanier Public Works Building. Travertine remains through this section.



## • TWO SHELL PLAZA – 811 Louisiana St.

### Building

The building is made of the same travertine as One Shell Plaza building.



### Building Base

The façade of the base of the building is different from the travertine above, it consists of diabase/ microgabbro (mafic intrusive igneous). Trade name: Virginia Mist Granite from Canada, also found in Jet Mist Quarry in Rappahannock, Virginia. Age: Early Jurassic (201-174 My).



### Pavement

Possibly slate (low grade metamorphic), but most likely phyllite (low-medium grade metamorphic) as micas are observed.



### Accent Flooring (below lobby)

Marble (dark metamorphic, likely low-grade metamorphism) with fractures, flow features, and calcite veins.

## Know the Rocks Where You Work



**Close-up:** contains impurities such as clay minerals, iron oxides, or bituminous material resulting in a bluish, gray, pink, yellow, or black color. The travertine (left in the picture below) is seen in the floor of the tunnel.



### BEFORE YOU GO

#### *Safety*

Look up, not at your phone, when navigating Downtown. Please be mindful of the traffic lights, pedestrian signals, bike lanes, and buses. Buses make frequent stops and can sometimes hop curbs. Some curbs, pavements, and streets may be uneven

#### *Etiquette*

Review the walking guide prior to arriving Downtown to maximize time spent on the tour. Be mindful of Downtown employees and keep slower pedestrian traffic to the right. Try to walk in pairs if walking around downtown as a group.

### CONTRIBUTORS

**SHEILA ECHOLS-SMESNY** holds a Bachelor of Science in Geology from Sam Houston State University, an Executive MBA from Texas Woman's University. You can find the seven walking tours in her website "Red Shoes. Red Wine".

**CHRISTEN PEEVY** holds a Bachelor of Science in Geology from University of Oregon and works at an oil & gas company in Houston.

**KATY MAINWARING** holds a Bachelor of Science in Geology from Texas Tech University and works at an oil & gas company in Houston.

# Using Uncrewed Aerial Vehicles (UAV) to Search for Unmarked Burials in Legacy African-American Cemeteries in the Houston, Texas Area

Muhammad Nawaz Bugti\*, Mike Allison<sup>2</sup>, Robert R. Stewart<sup>1</sup>, Charles Clapsaddle<sup>1</sup>

<sup>1</sup>University of Houston, Houston, Texas, <sup>2</sup>Raptor Aerial Services, Houston

Using uncrewed aerial vehicles (UAVs) allows rapid surveying of large areas. We are using this technology to assist in the search for unmarked burials. A number of African-American communities are in dire need of assistance in helping restore their cemeteries across the Houston area. For example, the Conroe Community Cemetery, located just north of Greater Houston area with burials as old as 1890s, has unmarked burials and is receiving needed attention. With this remote sensing and other geophysical and cultural surveys, we have identified probably burials and had them commemorated.

## INTRODUCTION

The Geoscience without Borders, “Dignity in Depth” project, supported by the SEG Foundation is assisting in the refurbishment of four historic African American cemeteries in the Houston area. This work is providing substantial benefit to families and communities by building respectful relationships among community groups, institutions, and geoscientists working toward cemetery restoration.



“Dignity in Depth” project from Geoscience without Borders



Historical Olivewood Cemetery in Houston (Source: Raptor Aerial Services)

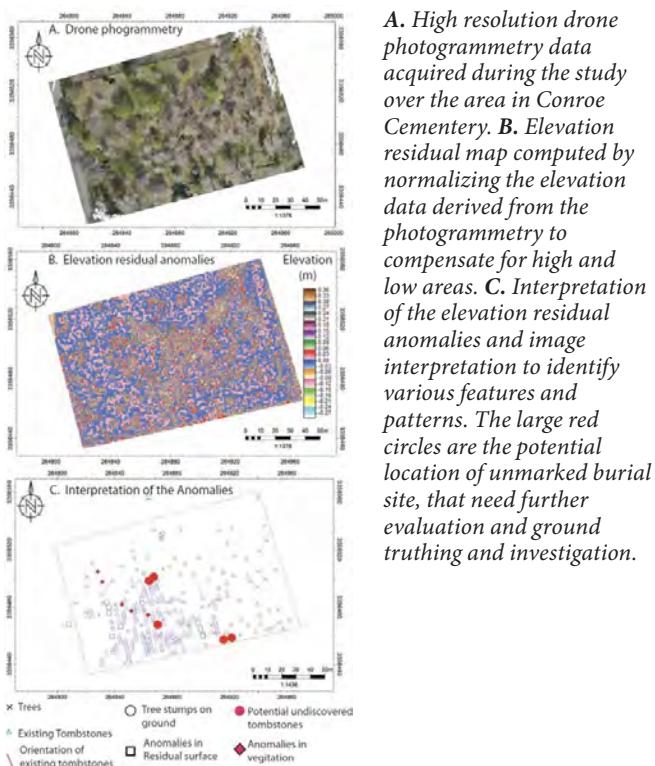
## METHODOLOGY

Drone photogrammetry data was acquired for the entire Conroe cemetery (as well as Evergreen Negro, Olivewood, and College Memorial cemeteries) including thermal imaging. Digital elevation and digital surface models were calculated, DEM and DSM, respectively. The area has an uneven background elevation profile. We normalized the elevation surface so that we can mark elevation changes across the area with sub-meter elevation anomalies. Automatic image interpretation techniques were applied to discern location of existing tombstones, their orientations, trees and various objects.

The anomalies were analyzed and integrated with objects identified on imagery to determine follow-up locations.

## RESULTS

Five possible burial sites are identified based on the elevation changes and their relationship with the burial patterns. Five more anomalies were identified based on variation in vegetation pattern, which needs further geophysical investigation, including magnetic and ground penetrating radar surveys over the areas of interest. ■



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# The Third Annual HGS Sporting Clays Shoot

By Magly Cabrera

The Third Annual HGS Sporting Clays Shoot, hosted by the Houston Geological Society, was held on Friday, November 21st at Westside Sporting Grounds and proved to be another outstanding success.

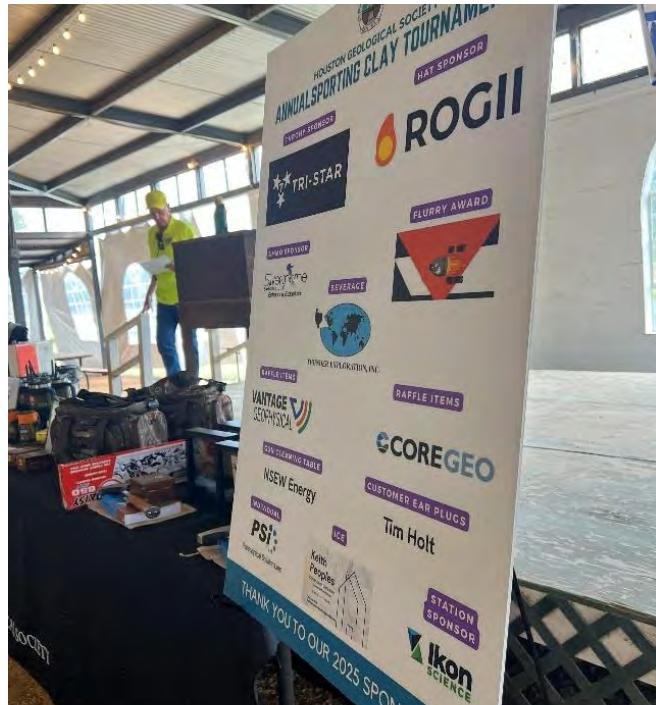
This event would not have been possible without the generous support of our sponsors: **Tri-Star, Roggi, Silverthorne, Thunder Exploration, Vantage Geophysical, CoreGeo, NSEW Energy, Tim Holt, PSI, Keith Peoples, and Ikon Science**. Their continued commitment and support helped make this event one of the best-attended and most successful fundraising events to date.

Special thanks also go to the HGS Sporting Clays Committee, whose dedication and hard work ensured a seamless experience—

from registration and ticket purchases to the smooth execution of the event. The committee also invested significant effort in securing outstanding prizes, adding even more excitement and value for participants throughout the day.

Attendees enjoyed a delicious breakfast, excellent barbecue, and a well-organized shooting experience. With beautiful weather, a clean and well-maintained facility, and outstanding safety standards, Westside Sporting Grounds once again provided an ideal setting.

If you haven't attended this event yet, be sure to mark it on your calendar for 2026, it's one you won't want to miss. ■



## The Third Annual HGS Sporting Clays Shoot



David Perez opened the event with a welcome message.



Safety moment before the start.



Delicious BBQ lunch.



Ready to hit the course after a smooth and easy registration.



Participants enjoying the perfect office day!



Ready. Set. Go!

## The Third Annual HGS Sporting Clays Shoot



Andi Peoples (HGS Office) in action.



Congratulations to our Sporting Clays Shoot winners!



Tri-Star full team

# Giving Back, Moving Forward: Building Networks Through Geoscience Volunteering

The November general lunch meeting featured three dedicated geoscience volunteers who shared their experiences of giving back to their profession and building sustainable networks. Ryan Ruppert, Senior Advisor with ExxonMobil, talked about supporting the SEG EVOLVE program. Robert (Bob) Merrill, owner of Catheart Energy, shared his volunteer story of supporting Geologists without Borders, and Amanda Johnston, a geologist at TotalEnergies, talked about her experience volunteering with the

AAPG Imperial Barrel Award the HGS Student Expo, and others. The speakers shared that volunteering has helped them to build professional networks in addition to supporting new generations of geologists.

Thanks to Kristen Jones and Meagan Wall (StratoChem Services North America, Inc) for volunteering to assist with logistics and thanks to Magly Cabrera (Ubiterra) for photographs. ■



## General Dinner Meeting: ExxonMobil's Energy Outlook

Clark Osterlund, Industry Outlook Advisor at ExxonMobil, presented ExxonMobil's Energy Outlook at the December general dinner meeting. Osterlund shared that rising living standards are projected to increase energy demand and a broad array of energy types, including oil and gas, will be needed to support energy demand of the future. More than 30 people gathered at Federal Grill to enjoy food, drink, and an engaging presentation.

Thanks to Kristen Jones and Meagan Wall (StratoChem Services North America, Inc) for volunteering to assist with logistics at the event. ■



# HGS 2025 Holiday Party

*Penny Patterson and Magly Cabrera*

The Fourth Annual HGS Holiday Party, hosted by the Houston Geological Society, once again delivered an evening full of holiday cheer, laughter, and warm seasonal spirit. The event was held on December 16, 2025, at the ever-popular Cadillac Bar, and continued its tradition as one of HGS's most anticipated gatherings of the year.

This year's celebration welcomed a sold-out crowd of more than 100 attendees, including HGS members, volunteers, coworkers, family members, students, and many new HGS members. Adding to the fun, Santa T-Rex, our beloved holiday party dinosaur, made a special appearance and thoroughly enjoyed the festive atmosphere and delicious treats.

The holiday spirit was truly shared by all, filled with friendship and good cheer, as captured in the event photographs. HGS extends a sincere thank you to Thunder Exploration, Inc., Patterson Geoscience Group, LLC, Silverthorne Seismic, LLC, and DataLog+GeoVision for their generous sponsorships.

Be sure to mark your calendar, we look forward to celebrating together again at next year's HGS Holiday Party! ■



*Once you get to the party, you need to pass it along for registration. We were very lucky to have Santa T-Rex helping with over 100 people — it was a lot of work.*



*HGS Fourth Annual Holiday Party with over 100 attendees!*

## HGS 2025 Holiday Party



Keith Cardin, Devi Fuhrmann (DataLog), Kristen Cabatingan (DataLog), Kristen's Fiancé and Audry Sauer.



Austin Bruner (HGS NeoGeos Committee Chair), Patricia (Patty) Walker (HGS President) and Alexandra Bruner (HGS NeoGeos Committee Chair)



Santa T-Rex wore many hats during the night and also helped with getting the food and drinks.



Special Thanks to our wonderful volunteers, Kristen Jones and Meagan Wall from Stratochem.

## HGS 2025 Holiday Party



A picture collage of our community having a great time!!

# HGS IS GETTING A NEW WEBSITE



## **HGS's NEW Website:**

- Fresh new webpage format
- More intuitive, user-friendly design
- Easy access to HGS member sites
- Improved navigation to HGS and external links
- New access for event registration

Regards,  
Penny Patterson  
HGS President 2024-2025

Patty Walker  
HGS President 2025-2026

## **NEW WEBSITE SPONSORSHIP OPPORTUNITIES**



### **Dear HGS Supporters,**

HGS is excited to announce that we are developing a NEW WEBSITE for our members!

We invite you to be a sponsor for HGS's new website and expand your network!

*See three sponsorship levels below:*

### **GOLD LEVEL \$3,000**

- Company Logo on HGS website front page with link to 1-page space for advertisement.
- Sponsorship level active for 2 years

### **SILVER LEVEL \$2,000**

- Company Logo on HGS website front page with link to 1/2 page space for advertisement.
- Sponsorship level active for 1 year

### **BRONZE LEVEL \$1,000**

- Company Logo on HGS website front page with link to 1/4 page space for advertisement.
- Sponsorship level active for 1/2 year

Please see accompanying payment form.  
Or contact HGS office: (713) 463-9476  
email: [andrea@hgs.org](mailto:andrea@hgs.org)

# HGS IS GETTING A NEW WEBSITE



## **GOLD LEVEL \$3,000**

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- Sponsorship level active for 1 year

## **BRONZE LEVEL \$1,000**

- Company Logo on HGS website front page with link to a 1/4 page for advertisement.
- Sponsorship level active for 1/2 year

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Please submit your company logo with the form and payment. Please email form to [office@hgs.org](mailto:office@hgs.org)  
Payment by credit card or check. Please make checks payable to: **Houston Geological Society**.

Name of Card Holder: \_\_\_\_\_ Card Type: \_\_\_\_\_

Card Number: \_\_\_\_\_ Expiration Date: \_\_\_\_\_ CVC: \_\_\_\_\_

# Volunteer with HGS



## Annual Events

Every year the HGS has annual social events, and we need volunteers to help us organize and set up on the day of!

These include events such as:

- Golf Tournament
- Shrimp Peel & Crawfish Boil
- Skeet Shoot
- Pickleball Event
- Field Trips



## Committees

HGS committees such as Educational Outreach and Continuing Education provide geoscience learning resources to students and the local geoscience community. These groups are always looking for volunteers! If you or someone you know is interested in lending a hand, please contact the HGS Office!



## Interested in Volunteering?

The HGS is always looking for energetic members to become volunteers for the society! As the largest local geological society in the country, we depend on the support of our members to help us organize and execute our many activities. Committees such as Educational Outreach, Continuing Education, and our annual social event committees are always looking for extra helping hands! Contact the HGS Office at [office@hgs.org](mailto:office@hgs.org) to learn more!

5:30 – 8:30 p.m.

HGS Members/Emeritus/Honorary Life \$65

Students \$40 • Non-Members &amp; Walkups \$75

Perry's

9827 Katy Fwy, Houston, TX 77024

Includes plated dinner and two drink tickets

<https://www.hgs.org/civicrm/event/info?id=2675>*Richard Stoneburner*

## Keys To a Successful Career in Oil And Gas Exploration: Opportunism, Perseverance and Relationships (and Some Luck!)

Looking back on the almost 50 years since I began my first job as a Petroleum Geologist in January 1977, there are so many learnings, both positive ones and negative, that it is hard to begin trying to provide whatever wisdom I have gained from all the experiences.

Humility clearly is something that every Petroleum Geologist must learn to practice given that we are humbled every time our prospect fails to live up to the dreams that we had for it. We also need to practice humility when we experience the thrill of a discovery knowing that around the corner there could be, and most likely will be, another disappointing failure.

After considerable thought around what I believe have been keys to my success in the upstream oil and gas industry I have landed on three foundational characteristics that I believe have guided my success.

The first key to success is opportunism. I am sure we all have faced a situation when success was only going to be achieved if you made a sound, but timely, decision. Failing to make that sound and timely decision could result in the opportunity no longer being available. The decision to act does not necessarily result in success but success will never be achieved when opportunities are lost. As it is said in sports, you miss every shot you don't take.

The second key to success is perseverance. This can manifest itself in several ways. It might mean giving up on a prospect because it lacks peer support even though you are convinced of its merits. It could mean not making the financial commitment necessary to allow a project to succeed even though you are convinced that it has a real chance to be a financial success. There are many other ways that you one can fail to persevere when doing so might have made a dramatic difference in your career.

The third characteristic is taking advantage of positive relationships and, just as importantly, avoiding negative ones. This might be the most difficult of the characteristics to control. We have all come across people who were either a mentor or a

leader that we decided to listen to, relate to, and be affected by. Those people quite often helped open doors to your career that would never have been opened without that positive relationship. It can be even more difficult to make the correct judgment to not be influenced by those negative relationships. If we choose to be involved with people who are not looking after your best interest it can often end with incredibly damaging results.

Lastly, and this is clearly not a controllable characteristic, but every successful Petroleum Geologist has encountered his or her share of luck along the way. While it is generally out of your hands, I do believe that there is something to the phrase "he or she made the most of their luck".

With that as a backdrop, I will offer some examples of each of these characteristics and how they helped shape my career. ■

### BIOGRAPHICAL SKETCH



**MR. STONEBURNER** has over 48 years of experience in the oil and gas industry. He currently is owner of Stoneburner Consulting Services. He served as Senior Advisor and Partner with Pine Brook Partners from April 2013 thru December 2022. He served as president of the North America Shale Production Division for BHP Billiton Petroleum from 2011 to 2012. From 2009 to 2011, Mr. Stoneburner served as president and chief operating officer of Petrohawk Energy Corporation. He was the company's chief operating officer from 2007 to 2009 and led their exploration activities as executive vice president of exploration from 2003 to 2007. Mr. Stoneburner began his career as a geologist in 1977 and held positions at Texas Oil and Gas Corp., Weber Energy Corp., Hugoton Energy Corp. and 3TEC Energy Corp.

Mr. Stoneburner is non-Executive chairman and Interim CEO for Tamboran Resources (Private/ASX/NYSE 2016-2025). He is also a director for the private upstream companies Pursuit Oil and Gas and Elevation Resources. He is an advisor to Ayata, a

private company developing AI. He also serves on the advisory council of The Jackson School of Geosciences at the University of Texas at Austin, on the visiting committee of the Bureau of Economic Geology at the University of Texas at Austin and is a board member of Switch Energy Alliance. He was formerly a board member of Newfield Exploration (NYSE: 2012-14), Yuma Exploration (NYSE: 2014-2020), Brigham Minerals (NYSE: 2018-2022) and Sitio Royalties (NYSE: 2022-2025). He is also a former board member for Memorial Assistance Ministries and past president and former board member of the Houston Producers Forum.

Mr. Stoneburner holds a BS in Geological Sciences from the University of Texas at Austin, an MS in Geological Sciences from Wichita State University. He was a member of the American Association of Petroleum Geologist's Distinguished Lecturer Series in 2012-2013, was awarded the Norman Foster Outstanding Explorer of the Year award by the AAPG in 2016 and was awarded The Colonel Edwin L. Drake Legendary Oilman Award by the Petroleum History Institute in 2025.



*Special*  
**HGS LEGENDS NIGHT - JAN 12, 2026 - 5:30PM**

---

**Speaker: Richard Stoneburner**  
**Perry's Steakhouse, Katy Freeway**

**Sponsorships Available**  
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# HGS General Lunch



## Monetary Pivot Points in the History of the US Dollar, Their Effects on Oil Prices, and the Current Monetary Pivot

This presentation reframes the drivers of global oil prices, arguing that after supply and demand, the value of the US dollar - not geopolitics - is the most powerful influence. This presentation explores why a major revaluation of oil prices may be inevitable once supply tightens or monetary stress intensifies, and what this means for producers, consumers, and the global economy.

**February 18, 2026**

**11:30am - 1:00pm**

**Total Energies, 1201 Louisiana St.**

**Houston, TX 77002**

**Members: \$30**

**Non-Members: \$35**

**Students: \$25**

**REGISTER NOW**



**Bill DeMis**



# Unraveling the Stratigraphic Complexity of the Upper Miocene Slope-channel Systems at MP313, Gulf of Mexico Shelf: Leveraging Reprocessed Seismic to Establish a New Trend within a Mature Field

Cantium began operating the GoM shelf MP313 field in 2017. A 2024 drilling campaign was launched to target a 25-acre amplitude anomaly in the H-10 Lower sand named Outforde. The target location was downdip from producers that went offline from low rates, high water cuts, or mechanical issues.

H-10 Sd fault block A production began in 1983 and totaled 3.1 MMBO and 4.1 BCF under water drive. Varying oil-water contacts, bottom-hole pressures, and drastic facies changes across the fault block alluded to complex drainage patterns. Our newly reprocessed seismic data revealed two distinct depositional episodes (Upper and Lower Members) of the H-10 sand package previously thought to be a single unit with multiple stratigraphic barriers.

New data showed that the H-10 Lower member is divided into stratigraphically and structurally isolated NE-SW trending channel-form amplitude anomalies in eastern FB- A. Normalized AVA response curves from the reprocessed gather data showed Class III AVA response at the Outforde take point. Trap and charge were high risk elements as the prospect was heavily dependent on the geologic model and AVA analyses.

Outforde discovered >100' TVT of net oil, approximately 2.5X Cantium's pre-drill estimate. Production began on 04/2024 and reached peaks rates of 1800 BOPD. This has opened new development opportunities in neighboring amplitude anomalies for future drilling campaigns. ■

## BIOGRAPHICAL SKETCHES



**STEFANIE FRELINGER** is a development Geoscientist for Cantium and the lead Geo for the MP313 field. Prior to her 5-year tenure at Cantium, she worked in Central and Western deepwater GoM for CNOOC in exploration and development. She received her Master's in Geoscience at the University of Texas at Austin in 2015 and her Bachelor of Science

in Geological Engineering at the Colorado School of Mines in 2010 as a student-athlete in women's soccer. Before entering the energy industry, she worked 2 years with industrial minerals mining company Imerys in Limoges, France. When she's not spending her working hours looking for oil and gas prospects, you can find her playing random international sports like Gaelic and Australian Rules Football.



**LUKE PIERCE** is an Exploration Geoscientist at Cantium, where he is currently managing seismic reprocessing initiatives and performing near-field exploration. Prior to joining Cantium in 2019, he developed and executed a nine-well horizontal drilling program in the Wilmington Field (California) for Warren Resources (2017–2019). From 2013 to 2017, he served as Geoscience Manager at Rooster Petroleum, generating both development and exploration opportunities for mature GOM Shelf assets. Prior to Rooster Petroleum he worked at ERT/Remington Oil and Gas (1999–2013), where he developed both Shelf and Deepwater projects, including the Green Canyon Phoenix Field. From 1997–1999, he worked with ORYX Energy in Deepwater Western GOM. Before ORYX Energy he worked for Enserch Exploration (1991–1997), where he generated shelf and deepwater plays. He began his career as a Seismic Analyst with Geco Geophysical (1985–1991), processing 3D marine surveys after graduating with a Bachelor of Science in Geophysics from the University of Houston. Outside of work, you will find him designing and 3D printing assorted plastic objects and spending time outdoors grilling in his backyard.

William D. DeMis

President

Rochelle Court, LLC

Cypress, Texas

## Monetary Pivot Points in the History of the US Dollar, Their Effects on Oil Prices, and the Current Monetary Pivot

After supply and demand, the single most important control on global oil prices is the value of the US dollar (e.g., DeMis, 1996, 2000, 2021). When oil price behavior, and the desires of the people who set the price of oil, are viewed through an historical retrospective that focuses on monetary pivot points, “geopolitical events” play a surprisingly insignificant role and there is no evidence that oil price rises cause inflation.

Three major pivot points in the value of the US dollar have affected oil prices. These pivot points occurred in 1944, 1971, and 1985. Today’s unsustainable monetary and fiscal excesses of the US government show the US is now in a monetary pivot at least as profound as the collapse of the Bretton Woods Accord.

The Bretton Woods Accord in 1944 was the major monetary pivot point of the 20th century. The agreement pegged the US dollar to gold and made the US dollar exchangeable for gold for foreign central banks. The Bretton Woods Accord made the US dollar the reserve currency of the world.

The second monetary pivot point was the abandonment of the Bretton Woods Accord on August 15, 1971. Bretton Woods demise was caused by the US Federal Reserve printing too many greenbacks to fund the war in Vietnam and President Johnson’s Great Society programs. Quitting Bretton Woods led to a 21% devaluation in the dollar in 18 months (DeMis, 2000). Oil supply and demand were tight, therefore international oil producers made up for the cumulative effects of 8 years of inflation and back-to-back dollar devaluations by increasing nominal oil prices four-fold in four years starting in 1973 (ibid, 2021).

The “oil price shocks” of the 1970s were completely foreseeable as an adjustment to depreciations in the dollar after the collapse of Bretton Woods. But oil price rises could only occur after three conditions were met: 1) the price of gold rose three-fold to \$100/oz; 2) there was orgy of Federal Reserve money-printing and

government deficit spending; 3) oil supply became tight (DeMis, 2021).

The third pivot point was the Plaza Accord in 1985 where the signature countries agreed to devalue the dollar to cure trade imbalances (DeMis, 2019). The greenback fell 35% in seven years. International oil producers took extreme cuts in purchasing power but could not offset losses by increasing their nominal prices because of over-supply from the North Slope and North Sea (DeMis, 2016).

By the early 2000s, supply and demand came back into balance. Major producers were able to raise oil prices to regain purchasing power lost from the third pivot point. Nominal oil prices increased fourfold in four years (2004-2008). Tellingly, the only news headline about surging oil prices and inflation were to ask, “Where is the inflation?” Certainly by 2008 the US had de-industrialized its economy and was consuming less oil per unit of Gross Domestic Product. But not even this change explains the lack of inflation in the face of a four-fold rise in oil prices. The dominant explanation is that the money supply was not growing faster than the economy (DeMis, 2021).

The shale revolution brought on the equivalent of a “Saudia Arabia” of oil production and a “Saudi Arabia” of gas production in the US. Changes in value of the US dollar have been essentially meaningless to OPEC (DeMis, 2023).

Today, US debt to GDP is 120%, as high as at the end of World War II. The US recovered financially after WW II by growing GDP and inflating the debt away (DeMis, 2023). By 1962, the economy grew by 75% in real terms (meaning corrected for inflation) and cumulatively inflation was by 45% by 1957. Today, the US has both a massive trade deficit and an aging population which makes it impossible to grow the US GDP like after WW II.

Another monetary pivot point is now upon us. Interest payments on the US debt are \$1.1 trillion per year, greater than the entire US miliary budget. More ominously, two-thirds of US debt is short-term and it will need to be re-financed within the next two to four years, most likely at higher rates. Meantime, the US continues to deficit spend at an annual rate of \$1.8 trillion per year, thereby further increasing the debt load and the interest payments. The only condition left is for supply-demand to become tight before oil prices surge like they did in the 1970s.

Financial pundits are speculating about a hypothetical “Mar-a-Lago Accord” wherein the US will swap US treasury and bond debt for a new, no-yield, ultra-long-term bond. This is a sovereign default in all but name. Other pundits suggest a major devaluation of the dollar. Whatever the solution to the current deficit and monetary crisis, changes will have to be dramatic and will not be pleasant.

Today, cumulative inflationary pressures suggest oil prices need to be about \$250/bbl for international producers to regain their purchasing power parity - if they continue to use the US dollars. Oil's revaluation to a higher price will probably occur when supply becomes tight, but might be precipitated solely by the current monetary pivot point if this pivot becomes extreme enough. ■

## BIOGRAPHICAL SKETCH

**WILLIAM DEMIS** runs an oil-and-gas consultancy. He is an angel investor in a major domestic start-up company that is drilling some deep and potentially significant wildcats for natural gas in the onshore gulf coast. Bill likes to look at outside prospects and he generates his own prospects for fun and, rarely, for profit.

Mr. DeMis has been employed as a work-a-day prospecting geologist for most of his 35 years, but he has also held management positions including: Exploration Manager at Marathon Oil, Exploration Vice President at Roxanna Oil, and Senior Vice President and Chief Geologist at Goldman Sachs.

Bill has received two Best Paper Awards from the AAPG for his analysis of the effects of US dollar exchange-rate variations on the value of oil on global markets, in 1996 and 2000. This talk

on Monetary Pivot Points is an outgrowth of that work from the 1990s. Mr. DeMis has also won also “best paper” awards from Rocky Mountain Associations of Geologists and from the GCAGS.

Mr. DeMis is an associate trustee of the AAPG foundation. He currently serves as the Foreman of the AAPG House of Delegates and is on the Board of Directors of the Houston Geological Society.

## REFERENCES

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DeMis, W. D., 2021, History suggests nominal oil prices could rise to \$200 a barrel in near future: American Association of Petroleum Geologists/Society of Economic Geophysicists IMAGE Convention Abstract (Author's note: AAPG has not yet posted this abstract to its Search and Discovery website, making proper citation impossible at present.)

DeMis, W., 2023, The Coming Commodity Super Cycle: GeoGulf Transactions, v. 72, p. 37–79, AAPG Search and Discovery Article #11375

# JANUARY 2026

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1	2	3
<b>RESERVATIONS</b> The HGS prefers that you make your reservations online through the HGS website at <a href="http://WWW.HGS.ORG">WWW.HGS.ORG</a> . If you have no internet access, you can e-mail <a href="mailto:OFFICE@HGS.ORG">OFFICE@HGS.ORG</a> , or call the office at 713-463-9476. <b>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.</b> 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 <a href="mailto:OFFICE@HGS.ORG">OFFICE@HGS.ORG</a> . Once the meals are ordered and name tags and lists are prepared, no more reservations can be added even if they are sent. <b>No-shows will be billed.</b>						
4	5	6	7	8	9	10
11	12 HGS General Dinner Meeting <i>HGS Legends Night</i> featuring Richard Stoneburner Page 29	13	14 HGS E&E Dinner Meeting TBD	15 HGS-GSH Case Study Seminar II Page 7	16	17
18	19	20	21 HGS General Luncheon Meeting <i>Unraveling the stratigraphic complexity of the Upper Miocene slope- channel systems</i> Page 32	22	23	24
25	26	27	28	29	30	31

## 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](mailto: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., GeoPicks, should be approximately 600 words. Technical papers should be approximately 2000 words or less (excluding references).



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Promote your business with a booth at an in-person luncheon or dinner meeting. HGS will also post your logo, website/social link(s) and a brief company summary on the HGS website below the technical meeting's announcement and abstract.

## HGS Bulletin



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# SCIENCE AND ENGINEERING FAIR OF HOUSTON: JOIN US IN MAKING A DIFFERENCE IN 2026!

**Saturday, February 14, 2026  
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Share your love of geology by joining the  
*HGS Special Awards Agency (SAA)* team of volunteer judges at the  
annual *Science and Engineering Fair of Houston (SEFH)*

## **HGS Special Awards**

The HGS team reviews Earth science related projects in the Junior and Senior Divisions at the SEFH. Phase II and SAA Judging is from 1:15 – 4:15 PM Saturday afternoon. This is speed judging; other judges need to review the projects. Results must be tallied/turned in and award certificates labeled/framed and presented to winners by 6:00 PM. HGS gives two types of awards: rank and internships. HGS Special Awards are meant to encourage students to pursue Earth science related careers.

## **Rank Awards**

A top project is picked for each division; 2<sup>nd</sup> and 3<sup>rd</sup> place projects are picked for the Senior Division. HGS presents these winners with a certificate after judging ends and congratulation letters are sent to parents and teachers. Winners are recognized at Guest Night (if held in June).

## **Internships**

Through our membership in The Engineering, Science, and Technology Council of Houston (ECH), HGS funds three summer interns at the Houston Museum of Natural Sciences (HMNS). These Finalist HMNS Summer Intern Awards are nominated by HGS but awarded to three Senior Division finalists by ECH. Students must meet work requirements (so are not necessarily the top ranked project winners). The awardees are invited to an ECH awards banquet (or Zoom meeting), where the students showcase their projects.

**To volunteer as a Place Award Judge** (in any category) use the link on the SEFH 2026 website to register yourself: <https://sefouston.org/for-judges/#Signup>.

**HGS members can volunteer** to be an HGS Special Awards judge on Saturday afternoon, please email Dorene West (dbwesthou@earthlink.net; *please put 'SEFH Special Awards judging' in the subject line*).

**For additional info click:**

<https://sefouston.org/general-information/> or <https://sefouston.org/for-volunteers/>.

## ROCK SOLID GUESS!



HINT: Not from Houston, this rare and unusually well-preserved find emerged from a Central Texas creek. What is it? Image courtesy of an online contributor.



HINT: Polished, banded, and far from its original tectonic setting... this picture was taken inside a downtown Houston lobby. What is it, and where is it found? Photo courtesy of Lucia Torrado

---

### Rock-Solid Answers (December issue):

#### 1. Tumbling Rock Cave (Alabama)

The “Christmas Tree” on the December issue is located within a cave developed in Mississippian limestone (the Monteagle and St. Louis formations), with classic speleothems such as stalactites, stalagmites, and flowstone.

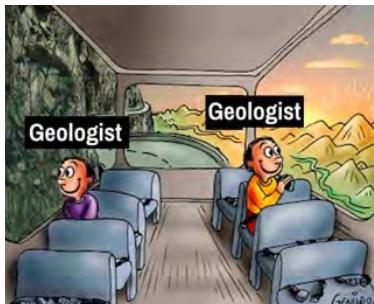
#### 2. The Fagradalsfjall volcanic system (Iceland)

This active fissure system located on Iceland’s Reykjanes Peninsula, is famous for its recent eruptions (2021, 2022, 2023) after 6,000 years of dormancy. Sitting on the Mid-Atlantic Ridge, its characterized by its flat top, steep sides and effusive basaltic lava flows.

# RockD: Your Pocket Guide to the Geology Beneath Your Feet

By Lucia Torrado

One of the perks of being a geologist is that when we travel, we can't help but be curious about the geology around us. I often find myself mentally playing an interpretation game, wondering about the lithology of an outcrop or landscape, the processes that shaped it, and the timing of those processes.



Probably every geologist on a road trip.

Of course, this curiosity can also feel like a bit of a curse. We don't just see landscapes for what they are, and if you're traveling with a fellow geoscientist (as I often do), geological discussions are almost inevitable. That's usually fine, until you're traveling with family or friends who aren't geologists, and

by the fourth day of the trip, they've had enough of your geological ramblings.

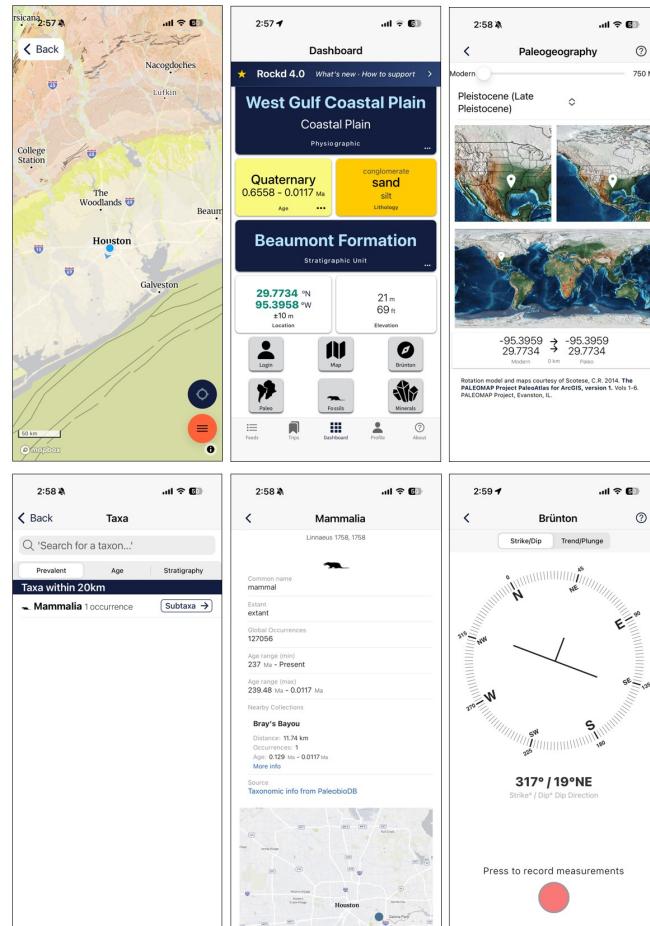
There have also been times when I've traveled to places where the geology isn't immediately obvious, and I've found myself wishing for a pocket-sized geologic map of wherever I happen to be standing. Even more so when there's limited internet access and I can't quickly Google the geology on the spot (admit it: you've probably done this yourself, too).

So, I am happy to introduce to you, RockD. RockD (iOS/Android) might be the most useful free app you download this year. Developed by a team of geoscientists from the University of Wisconsin-Madison, this free mobile tool integrates USGS and international datasets, turning your phone into a GPS-powered field guide to give you real-time geologic maps, stratigraphic columns, and lithologic descriptions.

Beyond just maps, RockD lets you log your own samples and field observations directly in the app. You can attach photos, GPS

coordinates, and notes, creating a digital field book that syncs to the cloud. It's especially handy for planning field trips, double-checking lithologies while traveling, or exploring the geology of your own neighborhood. It also has a feed that shows other people's trips in your area and around the world, with pictures, coordinates, descriptions that you can "like", like a social media app.

The app also supports offline basemaps, so you can preload data before you head into areas with poor cell coverage — perfect for remote outcrops or overseas travel. Educators and students use RockD as a teaching tool, while professionals appreciate it as a quick reference or reconnaissance aid.



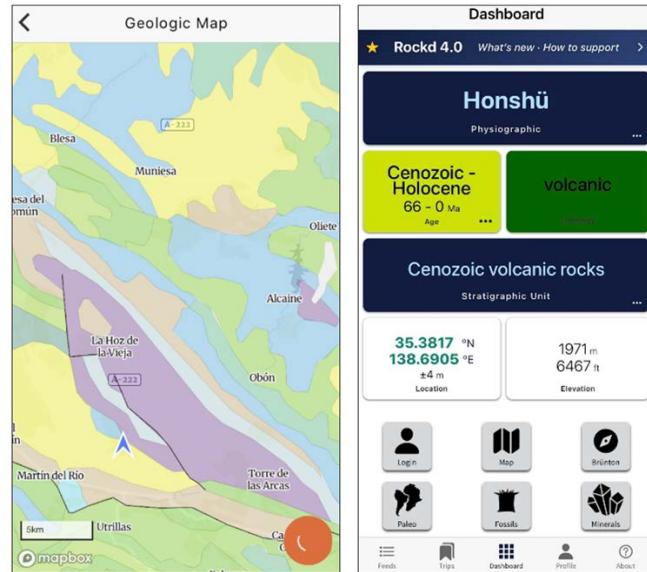
Screenshots of RockD app on iOS showing the different tabs including a geologic map, the main dashboard, paleogeographic maps, nearby taxa and collections, and an incorporated Brûnton compass. Example of the Houston area (Winter 2025).

**GeoPicks** features recommendations from fellow geoscientists like resources, experiences, or tools. Do you have a favorite you'd like to share? Send it to us at [editor@hgs.org](mailto:editor@hgs.org).

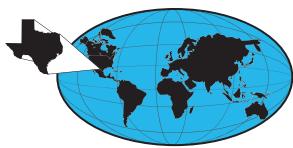
## RockD: Your Pocket Guide to the Geology Beneath Your Feet

I started using this app about 10 years ago, and while it doesn't always provide the most detailed geological descriptions, the information it does offer is more than enough to give you a solid sense of where you're standing, and to hold your own in a geological discussion. Whether you're a seasoned geologist, a student, or just someone who likes knowing what's underfoot, I strongly recommend the RockD app, as it makes fieldwork and everyday exploration more efficient and a lot more fun.

Tip: Try saving your own "geo stops" as you walk Houston's downtown rock tour featured in this issue of the *Bulletin* or your next field conference stop; you can build a personal geologic guidebook as you go.



Real life example of Rock D during road-trips. Left: Geologic map showing Triassic to Paleogene geology in the Aragon municipality of Spain (Summer 2018). Right: "Dashboard" showing a summary of the geology of the Five Lakes area in the Yamanashi Prefecture of Japan, close to the Mount Fuji volcano (Fall 2025).



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### WORD BRECCIA – A GEOLOGY WORD JUMBLE

Unscramble the words below and rearrange the circled letters to find the answer to the clue.

YSARB                   ○\_\_○\_○\_

OFLUBAF                \_○\_○\_○\_○\_○

TIEHW KAO              \_\_○\_  \_○\_

MISS                     \_○\_○\_

ESNERG                   \_\_○\_○\_○\_

HINT: From the examples above emerges T \_ \_ \_ \_ C \_ \_ Y, one of Houston's many nicknames.

*Unscrambled Word Breccia (December issue):*  
Signal, Iceland, Sensor, Warning, Fiber Optics and Geodetic Network



## HGS Membership Application

**Houston Geological Society**  
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### **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 \$40.00 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 \$40.00 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 \_\_\_\_\_

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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) **\$40.00** \_\_\_\_\_

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

**Total remittance** \_\_\_\_\_

**Payment:**

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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 \_\_\_\_\_

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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.

\_\_\_\_\_

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Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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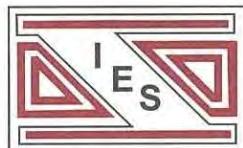


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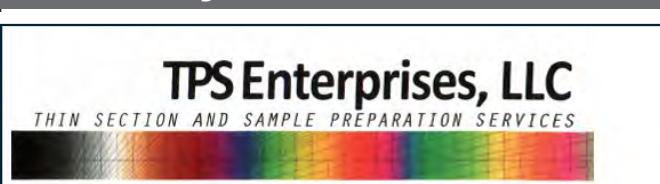
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The photo shows Cretaceous vertical rocks in the Grutas de García, Cerro del Fraile near Monterrey, Mexico. The caves are famed for stalactites and stalagmites forming dramatic shapes like lions, crosses, and the "Eighth Wonder," where a stalactite and stalagmite fuse. Photo courtesy of Linda Sternbach.