HGS Bulletin
Houston Geological Society
Volume 62, Number 9
May 2020

Virtual Zoom Meeting Greater Permian Basin Petroleum Systems – What Are We Learning in the Transition from Conventional to Unconventional?

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HGS Executive Office Director	Andrea Peoples	713-463-9476	andrea@hgs.org
HGS Admin. Assistant/Web Content Manager	Alyssa Cushing	713-463-9476	acushing@hgs.org

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In Every Issue

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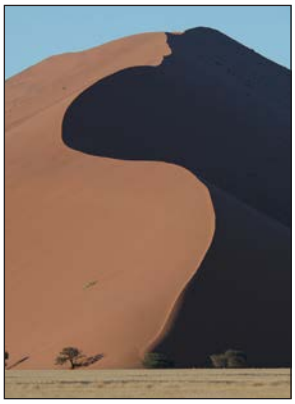
Technical Meetings

Other Features

About the Cover: The cover photo shows Manganese dendrites (age and location unknown), which are Manganese oxides consisting of a variety of minerals form branching fractal patterns on cracks and surfaces of rocks. The photo is contributed by Dr. William Dupre from University of Houston.



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2020 HGS-PESGB Africa Conference

September 15-16, 2020

Norris Conference Centers | Houston, TX

Call for Abstracts Deadline:
June 1, 2020

HGS-PESGB Africa Conference 2020

Africa and its Conjugate Margins – New Ideas, Plays, and Innovation

The recent global events have had a great impact on exploration in Africa in 2020 and onward. Change in commodity prices has resulted in many planned projects being uneconomic for the foreseeable future. However, the global economic and health crisis can also create many new opportunities for ideas and concepts as everything is being evaluated and common practice is reviewed with a new perspective.

The theme for the 2020 Africa Conference is no exception. The Technical Committee is focused on what can be done differently. Given the global changes in the Oil and Gas Industry the focus for the HGS-PESGB Africa Conference will change. It will focus on areas where commercial projects will be most likely to be pursued and what analogue areas could have a similar path forward. As a result, the 2020 Africa Conference Themes will include the Conjugate Margin to expand the reach and thoughts on exploration for the next decade.

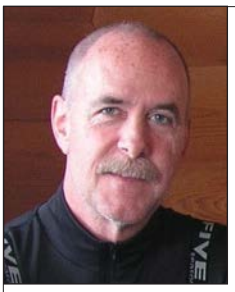
The conference will still seek to cover

1. Ideas that should be tested?
2. What has industry learned that should guide us toward new ways of thinking about exploration and development in Africa and its Conjugate Margins?
3. What technology(s) can help unlock additional reserves in existing basins and help find new resources in unexplored areas?
4. How governments can attract and promote investment in new and existing areas.

Technical Session Themes

1. Offshore Africa and its Conjugate Margins – New Ideas in an Old Area, Old Ideas in a New Area
   - Known Plays to be Tested in New Areas
   - Mapping Known Plays Across Multiple Basins
2. Applications of New Technology
   - Adding Reserves in Existing Basins
   - Reducing Cycle Time and Costs in Exploration
   - Integration of Multiple Technologies to Unlock Future Potential
3. North Africa Focus – New Areas and Ideas – Central Atlantic and Mediterranean Margins
   - Frontier Exploration Plays
   - New Exploration Plays in Under-explored Areas
   - Field Appraisal and Development Case Studies
4. Africa – A New Approach to Increase Investment
   - Government Participation and Cooperation
   - Corporate Responsibility, and Ways to Engage Communities
   - Sustainable Solutions to Africa's Energy Needs

Submit abstracts - Africa2020@hgs.org



Jon Blickwede
president@hgs.org

Blind Alleys in Exploration, Part I

I recently read an opinion piece in *Forbes* magazine entitled "The Power of the Blind Alley", written by their science contributor Paul Sutter. Sutter makes the case for scientific hypotheses that are proven wrong being just as valuable as hypotheses that eventually are proven to be correct. As Sutter puts it, "In order to map the unknown and turn it into the known, there's bound to be a lot of effort spent in directions that do not ultimately lead to a satisfying conclusion. But that does not make them fruitless. If you're going to make a map, you won't just find the rivers and the passages, but also the blocked coves and the impassible mountains. It all goes together into a single body of knowledge."

In order to map the unknown and turn it into the known, there's bound to be a lot of effort spent in directions that do not ultimately lead to a satisfying conclusion.

And so it is with the main task of the exploration geologist, especially for those who are involved in frontier exploration of new basins, or new plays in mature basins, where there is an inherently high risk of technical and/or commercial failure. Of course, all of us would rather be responsible for a commercial discovery than for a non-commercial discovery or a dry hole, but the latter are unavoidable and we should be psychologically prepared as explorationists to accept that fact. In addition, we should expect that company management accepts that fact, and makes it clear to their explorationists that their efforts will be rewarded regardless of the final result of prospect drilling – so long as the lessons learned are well documented and retained as a part of the company's collective knowledge going forward. Managers should also be open-minded to drill a high-risk prospect, as part of a balanced exploration portfolio, if the geologic concepts that went into the generation of such a prospect are reasonable. Unfortunately, some managers are prone to supporting only the lowest-risk prospects stemming from their desire to have their names unassociated with a dry hole. But as the old saying goes, "nothing ventured, nothing gained."

One such experience I had involved a prospect where multiple reservoir targets were defined by the exploration team. These targets included a reservoir that had already been proven in the same trend and was mapped to occur at an anomalously shallow depth. This opened the possibility of deepening the well, at a reasonable cost, to penetrate a series of older potential reservoirs that had never been penetrated in this part of the basin. A discovery, even a non-commercial discovery, in any of these older reservoir targets would have opened up an entire new exploration play and blessed the company with the advantages of being a *first-mover*. But alas, a neophyte manager was put in charge of the area and decided to only consider deepening the well if the primary, shallowest objective was found to contain significant pay. And unfortunately (in my view), drilling was summarily stopped by the manager after the shallow objective was found to be water-wet. It pains me to say that to this day, those deeper objectives remain untested. Even if the deeper objectives had not panned out, the value of the *data* from that well could have significantly offset the dry-hole cost, and possibly have led to partnership opportunities.

For my final column next month, I'll describe a more positive "blind alley" exploration experience that I had early in my career, where the acceptance, and even encouragement of taking on high technical risk yielded high rewards.

By the way, if you haven't yet voted in the HGS 2020-2021 Board election (and along with that, the proposed changes to the HGS Constitution/By-laws), here's just a friendly reminder to do so by May 10th. ■

Reference

Sutter, Paul M., "The Power of The Blind Alley," *Forbes*, 10 November 2019: https://www.forbes.com/sites/paulmsutter/2019/11/10/the-power-of-the-blind-alley/#58c6327355d0

GeoGulf 2020 Call for Papers

70th GCAGS/GCSSEPM Convention and Exposition
Sept. 30–Oct. 2, 2020 • Lafayette, Louisiana

Hosted by the Lafayette, Baton Rouge, and New Orleans Geological Societies

GeoGulf 2020 Session Themes

- "All Things Salt"—Tectonics, Oil and Gas, Seismic Acq., Proc., and Interp., Mining, etc.
- Machine Learning and Artificial Intelligence Applications
- GCSSEPM Special Session—Topic to be announced
- Gulf of Mexico Temperature and Pressure
- Smackover Session and Core Workshop
- GIS Technology and Applications
- Gulf Coast Environmental
- The Business Side—Legal, Unitization, Finance, Insurance, etc.
- Geoscience Applications of Drone Technology
- Geomechanics—Conventional and Unconventionals
- Carbon Capture / Underground Storage
- Shallow Hazards
- Success from Failure—Learning from our Mistakes
- And more—We are the place for Gulf Coast Geoactivities! We'll fit you in! Got an idea for a theme session, please let us know!

Professionals and Students: We welcome you to submit an abstract for consideration of oral or poster presentation of 250–300 words by February 3, 2020.

Early abstract submissions will be reviewed within a day or two of receipt with acceptance/rejection notification. Submit via email, title, author(s) (with full contact information for each, including company or school, full address with zip code, email, and phone number), and abstract (preferably with 1–2 representative illustrations including reference from text and with captions) to General Chair, James J. Willis, james.willis@gcags.org.

All accepted presenters are expected to submit an initial draft of full paper or extended abstract for publication in the *GeoGulf Transactions* by April 1, 2020, to the *GeoGulf Transactions* Editor, James J. Willis, james.willis@gcags.org. Full information, instructions, size limitations, and helpful hints for abstracts, extended abstracts, and full papers will be posted soon at www.geogulf.org.

If you'd like to publish in the *GCAGS Journal*, the peer-reviewed journal of Gulf Coast geoscience, submit an extended abstract of at least 600 words, including 1–2 representative figures, to the *GCAGS Journal* Editor, Robert Merrill (rmerrill@catheart.com) by December 16, 2019. Once accepted for publication, the deadline for submitting a full manuscript is April 2, 2020. Full instructions for manuscript submissions will be posted online at http://www.gcags.org. Convention presentations of *Journal* submissions are encouraged, but not required.

Fang Lin
editor@hgs.org

Reflection on Earth Day

Fellow HGS members: On April 22, 2020, we celebrated the 50th Anniversary of Earth Day, an annual event held in more than 193 countries to highlight the importance of environmental protection. According to Wikipedia, Earth Day was originally proposed by United States Senator Gaylord Nelson after the 1969 Santa Barbara oil spill, and gradually became an international event in the 1970's and 90's (https://en.wikipedia.org/wiki/Earth_Day). As an earth scientist, I pondered what Earth Day means to me recently and would like to share my thoughts with you.

Initially I felt a little uneasy to discuss the topic as someone working in the oil industry. Why? Because it is not uncommon for find the view in the general public that oil industry is one of the polluters of the Earth. I still remember the look on a few acquaintances' faces when I told them that I was going to work in the oil industry years ago – it was as if I was going to betray a noble cause and joining something despicable. But, is that really who we are and what we do as earth scientists in the industry?

First of all, let me say that I agree with many environmental protection initiatives. No matter what our professions are, we are all citizens of the planet Earth. We breath the same air, drink the same water and eat the same food as everyone around us. The Earth is our home too. We need to and want to protect it for ourselves and for generations to come. In fact, many earth scientists are avid nature-lovers, who pursued geologist or geophysicist career because we love Mother Earth so much. In short, we have no intent to mess up the Earth.

Second, can we live without the energy industry nowadays? I hope your answer is the same as mine, that is no. I still remember those days in the 1980's when my family were watching TV shows in the evenings, suddenly the electricity went out and we had to go to bed with a candlelight in hand. It was not fun. Even as of today, many of us are staying at home due to the COVID-19 situation, our consumption of gasoline and aviation fuel has been reduced dramatically. However, there are still cars and trucks on the road transporting goods to families, hospitals and to provide essential services. If my first example of energy consumption is dispensable, the second one is certainly not. My point is that many people are having and can have a better life with the supply of natural resources.

How can we continue to provide energy supply and other natural resources to fuel social stability and economic growth, meanwhile, to maintain and sustain the environment that we live in?

So the question really is not whether we should continue to explore and exploit natural resources or not, but how. How can we continue to provide energy supply and other natural resources to fuel social stability and economic growth, meanwhile, to maintain and sustain the environment that we live in? How can we extract natural resources more safely and efficiently with a minimum environmental footprint? These are the challenges faced by the Earth Scientists in the 21st century. Although there are no simple answers to them, I believe that we can find the solutions collectively through more accurate knowledge, advanced technology and raised environmental consciousness. We, the Earth Scientists, can be and should be part of the solution.

Last but not least, as we continue to live through the current pandemic, I want to take the opportunity to thank our medical staff, police officers, grocery store workers and many other people who are on essential service work posts. Thank you for keeping us safe and healthy! I also want to encourage our members to continue helping each other out as much as possible. Stay safe and well! ■

2020 GSH-SEG
Spring Symposium and Expo

HOW GEOPHYSICIST-MACHINE COLLABORATION IS CHANGING OUR INDUSTRY

JUNE 16-17, 2020

NORRIS CONFERENCE CENTER, HOUSTON TX

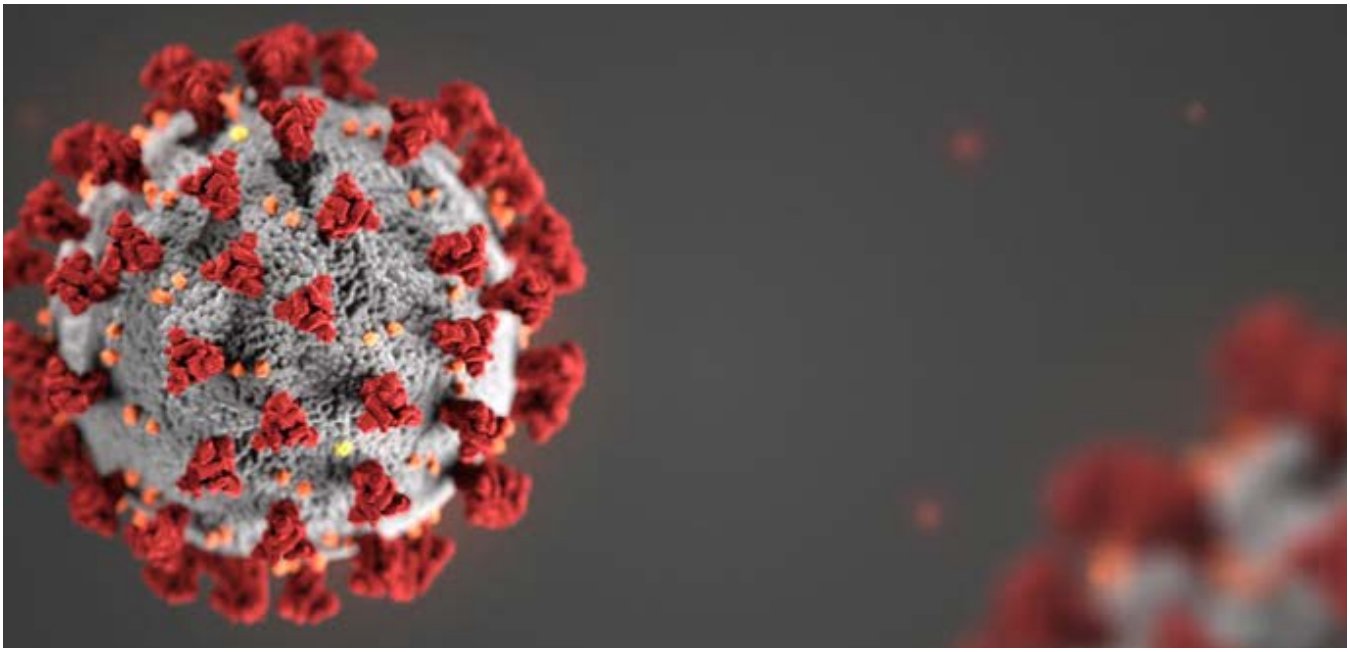
Actual case studies that highlight the applications of new technologies to solve Geophysical and E&P problems

- Tom Smith, GEOPHYSICAL INSIGHTS, ***Multi-attribute machine learning improves thin bed resolution***
- Mike Li, CHEVRON, ***Using Meta Learning to Build Adaptive AI Model for Oil and Gas Exploration***
- Wenyi Hu, AGT & UH, ***Progressive transfer learning for low frequency prediction in FWI***
- Long Jin, SHELL, ***Scalable seismic attributes computation framework in the age of deep learning and big data***
- Satinder Chopra, TGS, ***Some machine learning applications for seismic facies classification***
- Hugo Garcia, GEOTERIC, ***Automated Fault Detection from 3D Seismic Using Artificial Intelligence***
- Aria Abubakar, SCHLUMBERGER, ***Machine Learning for Geoscience Applications***
- Elive Menyoli, EMERSON, ***Wavefield separation via principle component analysis and deep learning in the local angle domain***
- Christopher P. Ross, CROSS QI, ***Predicting production metrics for unconventional shale reservoirs***
- Chengbo Li, CONOCOPHILLIPS, ***Hybrid learning-based framework for seismic denoising***
- Wen Hu, FORLAND, ***Seismic Denoising using Structure-Aware Stacked Denoising Autoencoder Networks***
- Philip Neri, ENERGISTICS, ***Standards for Knowledge Metadata are Crucial to Upstream Digital Transformation***
- Tammy Weir, WEIR CONSULTING, ***Can I move my data to the Cloud?***
- Keith Gray, BP, ***High Performance Computing at BP***

Great opportunities for knowledge sharing and networking
Sponsorships and Exhibit booths available
Tuesday evening Reception
Banquet roasting and toasting Mike Graul Wednesday

2020 Honoree Mike Graul

For sponsorship and booth details, call the GSH at 281-741-1624 or visit **gshtx.org/symposium2020**



Coronavirus (COVID-19) Policy Statement: Updated Thursday, April 30, 2020

Because of the ongoing coronavirus (COVID-19) situation, most in-person HGS events through the end of May 2020 are cancelled/postponed or will be substituted by free online events. Please check the HGS website on a regular basis for all HGS event opportunities.

The single, in-person HGS event during May 2020 is a volunteer activity for HGS members at the Houston Food Bank on May 4th. Please see the HGS website for details. (https://www.hgs.org/civicrm/event/info?id=2202)

The HGS Board will continue to monitor the situation and determine whether to extend the cancellation or postponement of HGS in-person events beyond the 31st of May. For those who have already paid for HGS events scheduled between now and May 31st, please contact the HGS office (713-463-9476) to arrange for a full refund.

Please monitor hgs.org and your email for further communication concerning HGS events.

For more information about how you can help to prevent the illness, visit the CDC website: https://www.cdc.gov/.

Jon Blickwede
2019-2020 HGS President

The HGS Office will be closed until further notice. If you need to reach us, please contact us by email at office@hgs.org. We apologize for any inconvenience.

Monday, May 18, 2020

Virtual Zoom Meeting
6:30–8:30 p.m. (Q&A at the end)
Registration is FREE for all
https://www.hgs.org/civicrm/event/info?id=2177
Registered Attendees: Please check your email the day of the event for Zoom meeting details.

Andrew Pepper
This is Petroleum Systems LLC
Amalia Doebbert
This is Petroleum Systems LLC, Presently: Total
Jean-Marie Laigle and Laure Laigle
Belmont Technology Inc.

Greater Permian Basin Petroleum Systems – What are We Learning in the Transition from Conventional to Unconventional?

The early "conventional" exploration of the Permian Basin pre-dated many modern concepts in applied geoscience. Its subsequent development coincided with a growing understanding of the basic chemistry of oils, gases and of reservoir fluids in general (AAPG Volumes by Ley, 1935; Galley, 1965 and Beebe, 1968). Pioneering work on carbon isotopes of oils (Kvenvolden, 1967) and gases (Stahl, 1975) followed. However, during the 1980's period when modern organic geochemistry expanded dramatically, accompanied by the advent of basin simulation the basin was already in a mature stage of production and saw relatively little application of these new ideas – integrated into what we now call Petroleum Systems Analysis. It seemed enough to know that the basin had many source rocks ranging in age from Ordovician to Middle Permian, leading to the assumption that every effective trap would be charged with petroleum one way or the other.

During the last decade, the industry's return to the basin for exploration and development of unconventional reservoirs has been accompanied by an illumination of the Petroleum Systems, revealing how the basin fluid system actually works. A range of approaches have been applied: from regional burial and exhumation history and its impact on pressure and maturity/fluid distribution; to analysis at the pore scale of saturation patterns, relative permeability and of mudrock reservoirs. Recent geochemical studies include diamondoid compounds in high maturity samples where oil-to-gas cracking has destroyed many or all classical biomarker compounds.

Returning with this modern toolkit and with the aim of understanding the organic-rich mudrocks not just as source rocks but also as reservoirs, a number of traditional misapprehensions can be redressed:

1. The appreciation of a Cretaceous-Tertiary burial and exhumation history results in an appreciation of the high thermal stress levels attained in the past, before erosion and cooling, leading to a prediction from first principles of GOR and fluid phase properties such as viscosity in the organic-rich source rock reservoirs.

2. The more recent burial and shorter time for dissipation of overpressures explains the extremely high overpressures encountered in the mudstone-rich basinal facies – a key to the prolific production rates obtained from the basin center mudrock reservoirs.

3. When dips are relatively flat, lateral changes in heat flow induced by changing crust composition can generate local maturity "sweet spots" that do not simply follow burial depth.

4. Re-assessment of oil-oil and oil-source correlations shows that the platform carbonate conventional reservoir fluids are not low mature equivalents of the lighter oil in the basins, as traditionally thought, but often belong to a completely different petroleum system driven by a high sulfur (Organofacies A) organic matter apron on the edges of the Midland and Delaware Basins. Low sulfur, more clay-rich source rocks (Organofacies B and intermediate A/B) drive mainly the basinal unconventional petroleum systems.

5. Mudstone reservoirs vary in saturation, not as a function of height, but as a function of the layering of "reservoir" and "seal" lithologies inside the source beds. The source beds are not closed systems, and to differing degrees have charged conventional reservoir systems with early-expelled fluid while retaining latest-expelled fluids within the source bed itself.

HGS North American Virtual Meeting *continued on page 11*

The Climate Solutions Community
An AIChE Initiative

Paths to Texas Zero GHG Emissions: Electricity, Transportation and Industry

August 22, 2020 University of Houston Student Center Theater 9am-noon

Engineers, scientists, legislators and the general public are invited to attend a public discussion of vital climate solutions. A distinguished panel will speak followed by a Q/A with the audience. Speakers are Professor Sylvia Dee (PhD Climate Scientist, Rice University), Jeremy Friesen (Director, Business & Corporate Development, NET Power), Gene Preston (PhD Electrical Engineer, CEO of Transmission Adequacy Consulting), Professor Pavel Tsvetkov (PhD Nuclear Engineer, Texas A&M University) and Larry Kremer (PhD Physical Chemist, Citizens Climate Lobby). The symposium chair is Tom Rehm (PhD Chemical Engineer, Chair of Climate Solutions for Texas).

Registration is $10. If you're a student, registration is free.
https://stsaiche.regfox.com/ech-climate-solution-community-symposium

Second EAGE/HGS Conference on Latin America

19-20 NOVEMBER 2020 • CARTAGENA, COLOMBIA

Save the date!

- **Join us!**

WWW.EAGE.ORG

HGS North American Virtual Meeting continued from page 9

6. New saturation and relative permeability approaches explain how mudstone reservoirs, notably the Wolfcamp, can at high water saturation produce significant petroleum and significant amounts of water.

The talk is based on a major compilation of public data sources and uses standard as well as AI-assisted basin modeling approaches to demonstrate basin burial and thermal history and the resulting fluid distribution. ■

Biographical Sketch

This year **Andy Pepper** will celebrate 39 years' experience as a geologist and petroleum systems analyst: at BP as leader of the Petroleum Systems Network; at Hess as Chief Geologist and then Director of New Ventures; and at BHP as VP Geoscience and VP Unconventional Exploration. He founded This is Petroleum Systems LLC in 2015 as a vehicle to collaborate and innovate in Petroleum Systems concepts, modeling and training.

Volunteer Opportunity for HGS Members
The Houston Food Bank
Monday, May 4, 6–9 pm

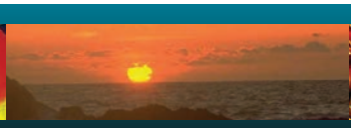
Miss networking with your colleagues? Feeling like there are not enough constructive things to do? The HGS will be having a volunteer three hour session at the Houston Food Bank on Monday, May 4th from 6-9pm.

Go to https://www.hgs.org/civicrm/event/info?id=2202 to sign up and join the session with the Houston Geological Society. If you have not volunteered there before, you will need to register as a volunteer, and then volunteer for our session. The signup page will have safety details. Wear closed-toe shoes and your HGS or geo-garb. Contact Jim Tucker at jtuckergeo@aol.com for any other needed details.

houston foodbank

Houston Food Bank - Warehouse • 535 Portwall St. • Houston, TX 77029

May 2020

Sunday	Monday	Tuesday	Wednesday
	Reservations: The HGS prefers that you make your reservations on-line 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, check with the Webmaster@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.**		
3	4	5	6
10	11	12 **HGS Board Meeting** *6 p.m.*	13 **HGS Environmental & Engineeering Virtual Zoom Meeting** *"Human Trafficking is Outside Your Door," David Reid*
17	18 **HGS North American Virtual Zoom Meeting** *"Greater Permian Basin Petroleum Systems – What are We Learning in the Transition from Conventional to Unconventional?," Andrew Pepper* *Page 9*	19	20
24 31	25 **HGS Closed for Memorial Day**	26	27


GeoEvents

Thursday	Friday	Saturday
	1 Don't wait, make your reservations online at hgs.org	2
7	8	9
14 **HGS NeoGeos Virtual Zoom Event** *"Show Me the Money: Navigating Turbulent Times" Elizabeth Cambre, Jeff Allen, James Hahn, Brian Matlock*	15	16
21	22	23
28	29	30

Postponed
AAPG 2020 Annual Convention & Exhibition
Houston, Texas, USA

Postponed
EAGE Annual Conference & Exhibition
Amsterdam, The Netherlands

June 16 – 17, 2020
2020 GSH-SEG Spring Symposium and Expo
How Geophysicist-Machine Collaboration Is Changing Our Industry
Houston, TX, Page 6

August 22, 2020
Paths to Texas Zero GHG Emissions: Electricity, Transportation and Industry
Houston, Texas, USA, Page 10

September 15-16, 2020
2020 HGS-PESGB Africa Conference
Houston, Texas, USA, Page 2

November 19-20, 2020
Second EAGE/HGS Conference on Latin America
Cartgena, Colombia, Page 10

STGS Fall Field Trip - Friday, October 16th, 2020

"Geology, Frontier History, and Oenology of the Texas Hill Country"

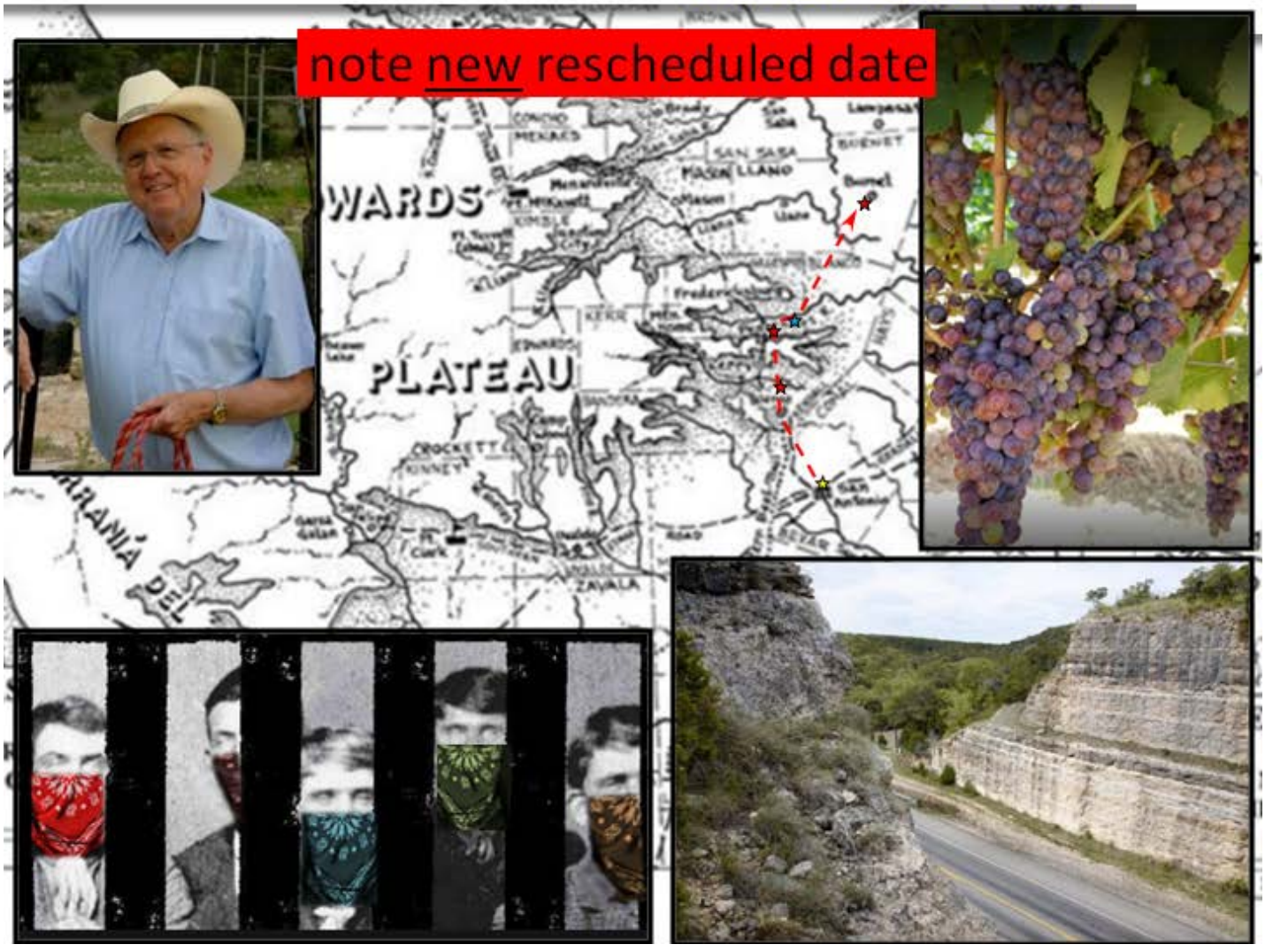
Trip Leader: Pete Rose

Pete will discuss how geology shaped the white man's settlement of the Texas Hill Country beginning with their slim pickings from farming and ranching, their grim encounters with Indian raiding parties and stage coach robbing desperados, to eventual law and order forged by the justice of Texas Rangers. Pete will show that geology creates and controls the extent of the true Hill Country terroir; that is, where actually nurturing vines in Texas soil, to harvest locally raised grapes that yield sustainable and desirable wine, is possible and thriving.

Schedule	
40 passenger bus departs Petroleum Club parking lot (8620 N New Braunfel SA TX)	8 AM
wine tasting at *Sister Creek Vineyards*	9 AM
wine tasting at *Becker Vineyards*	10:30 AM
box lunch by *My Own Chef* at LBJ Park, Stonewall, Texas	High Noon
wine tasting at *Perissos Vineyard and Winery*	2:30PM
return to Petroleum Club	6 PM

COST: $125 per person

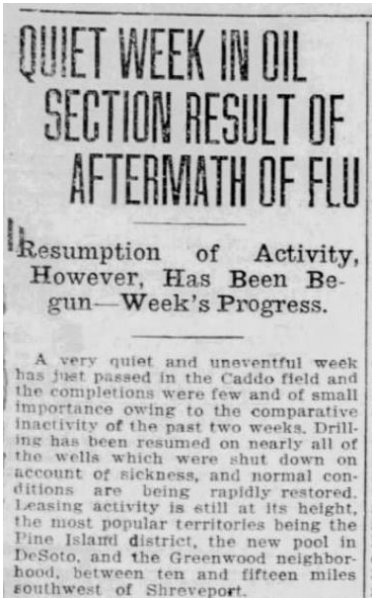
for reservations and payment information email johnlonggeologist@gmail.com



1918 Influenza in the Oil Fields

The Editor's Words: As we are living through a pandemic right now, similar events have happened in the history of human society. The 1918 "Spanish" influenza was one of them, which had quite some impact on both peoples' lives and the petroleum industry. While the impact of the current pandemic on our society and industry is not fully revealed yet, a peek of what happened in the past may provide some historic perspective. Many thanks to Mr. Jeff Spencer for compiling the news images and providing the background information.

Flu in the oil fields - 1918

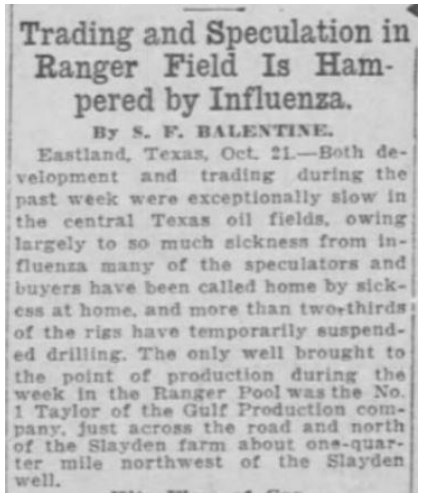


QUIET WEEK IN OIL SECTION RESULT OF AFTERMATH OF FLU

Resumption of Activity, However, Has Been Begun—Week's Progress.

A very quiet and uneventful week has just passed in the Caddo field and the completions were few and of small importance owing to the comparative inactivity of the past two weeks. Drilling has been resumed on nearly all of the wells which were shut down on account of sickness, and normal conditions are being rapidly restored. Leasing activity is still at its height, the most popular territories being the Pine Island district, the new pool in DeSoto, and the Greenwood neighborhood, between ten and fifteen miles southwest of Shreveport.

The Shreveport Journal
November 8, 1918, p. 3

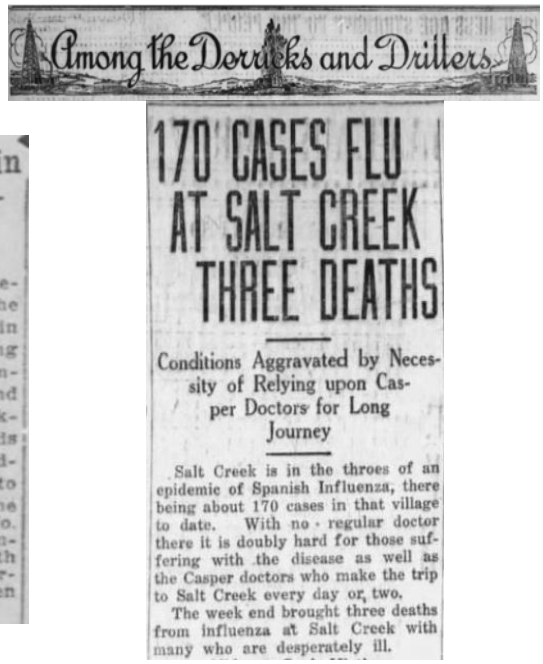


Trading and Speculation in Ranger Field Is Hampered by Influenza.

By S. F. BALENTINE.

Eastland, Texas, Oct. 21.—Both development and trading during the past week were exceptionally slow in the central Texas oil fields, owing largely to so much sickness from influenza many of the speculators and buyers have been called home by sickess at home, and more than two-thirds of the rigs have temporarily suspended drilling. The only well brought to the point of production during the week in the Ranger Pool was the No. 1 Taylor of the Gulf Production company, just across the road and north of the Slayden farm about one-quarter mile northwest of the Slayden well.

El Paso Herald
October 21, 1918, p. 8



Among the Derricks and Drillers

170 CASES FLU AT SALT CREEK THREE DEATHS

Conditions Aggravated by Necessity of Relying upon Casper Doctors for Long Journey

Salt Creek is in the throes of an epidemic of Spanish Influenza, there being about 170 cases in that village to date. With no regular doctor there it is doubly hard for those suffering with the disease as well as the Casper doctors who make the trip to Salt Creek every day or, two.

The week end brought three deaths from influenza at Salt Creek with many who are desperately ill.

Casper Star-Tribune
November 18, 1918, p. 4

These three newspaper headlines are examples of the impact of the 1918 flu on just three areas of North American oil production. As the infamous days of "Roaring Ranger" began a year earlier, here is a bit more about that Texas oil field and the arrival of the flu.

Ranger, Texas is located approximately 80 miles west of Fort Worth. On October 21, 1917, the Texas and Pacific Coal and Oil Company's No. 1 J.H. McCleskey well came in at 1700 barrels of oil per day. "The Boom that Won the War" (1917-1920) was attributed to the timing of the Ranger oil boom, which provided much-needed oil to the Allied Forces in Europe (Spencer, Jeff A., 2013, *Texas Oil and Gas*, Arcadia Publishing, Charleston, SC, p. 85-89). In the midst of this oil boom, came the "Spanish" influenza.

"Operations in the Ranger District of Texas have been further retarded by the prevalence of the Spanish influenza. The congested condition of the housing facilities has caused a moving away temporarily of a large number of operators and their workers, particularly from the town of Ranger" (*National Petroleum News*, October 23, 1918, v. 10, p. 23).

The photos of the news report and the caption above are provided by Mr. Jeff Spencer. ■

South Texas Geological Society Seminar & Field Trip

OVERVIEW OF THE AUSTIN CHALK IN SOUTH TEXAS AND LOUISIANA:

Depositional Setting, Diagenesis, Porosity Evolution, and Play Development

Seminar Lecturer: Jeffrey Dravis

The Upper Cretaceous Austin Chalk trend in south Texas and Louisiana continues its resurgence in interest. Areas like Karnes Trough in south Texas, and central Louisiana, remain the areas of interest right now, but many companies also are exploiting established field areas like Pearsall and Giddings, and expanding into East Texas. Geoscientists who explore in the Austin Chalk, or hope to exploit existing Chalk field trends, should possess a firm understanding of the Austin Chalk's regional depositional and diagenetic framework. This includes appreciating the influence of regional and local paleogeography, preexisting topography, and underlying structural framework. Developing an appreciation of the various diagenetic pathways that affected Austin Chalk porosity and permeability evolution is critical as well, since fractures are only a part of the story.

Field Trip Leaders: Tom Ewing, John Cooper, David Ferrill

Tom Ewing will show and discuss depositional details of Austin Chalk Group outcrops in the San Antonio area pointing out their implications on hydrocarbons exploration. John Cooper will explore the stratigraphy of the Austin Chalk Group in Bexar County from lower to upper contact and integrate geophysical logs to make ties to the subsurface. David Ferrill will discuss faulting and fractures seen in fault zones exposed in the San Antonio area. David's discussion will focus on understanding typical normal fault patterns and using these patterns as an aid in predicting the fracture zone width when planning oil and gas exploration.

NOTE: The field trip will be moderately strenuous, especially in the event of rain

Friday, November 6th, 2020

Coffee & pastries at Petroleum Club (7th Floor, 8620 N. New Braunfels, SA TX).....8 AM

Buffet Lunch.....note rescheduled dates.....Noon

Conclusion and *happy hour*.....5 PM

Saturday, November 7th, 2020

Passenger bus departs Petroleum Club (8620 N. New Braunfels, SA Tx) parking lot....8 AM

Box lunch .....Noon

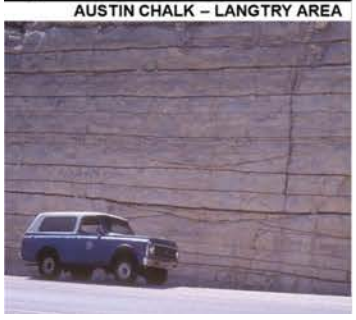
Return to Petroleum Club by.....5 PM

$380 per person (compare to $895 in Houston with no field trip)

(seminar only: $320—field trip only: $100)

for reservations and payment instructions email: johnlonggeologist@gmail.com

or go to https://stgs.org/civicrm/event/info?id=84&reset=1 please register prior to April 16th, 2020



AAPG House of Delegates Candidates

The House of Delegates of the AAPG is made up of delegates from affiliated societies and international regions throughout the world. They are selected by popular vote from within their respective areas and serve a three-year term.

Requirements of the delegates include:

- Familiarity with AAPG's Constitution and Bylaws
- Acquaintance with AAPG's current policies and programs
- Willingness to inform the leaders of their society or region regarding AAPG's program of activities, particularly as it relates to cooperative participation and service
- Ability to process AAPG Executive Committee requests for applicant information regarding membership eligibility
- Willingness to support the AAPG HoD with membership retention and recruitment
- Willingness to actively solicit applications from eligible geologists for membership in AAPG

We are providing a brief informational summary of 12 candidates for the HGS delegation to the AAPG House of Delegates. A formal ballot will be sent to those eligible to vote by AAPG. Each voting member will be asked to vote for 11 individuals.

Sharma Dronamraju, MS, MBA, PG

I currently serve as an Alternate with the House of Delegates and I would consider it an honor to continue to serve as a Delegate for the 2020-2023 Term.

Serving on various committees and volunteering with Houston Geologist Society provided me the greatest joy and enriching experience. I have been associated with Houston Geological Society since 1997. I was part of the Continuing Education Committee then. I had organized several 1to 2-day education seminars and symposiums which include, "Geopressures", "Coal Bed Methane", "Reservoir Modeling" and organized and Co-chaired "International Business of Exploration". Over these years I have been active in many programs and co-Chaired International Explorationists Committee and Mud Rocks Committee, serving on Houston Guest Night, volunteered as judge for Houston Science and Tech Fair, a Delegate and an Alternate Delegate at AAPG annual conferences, an Invited Guest Speaker at HGS International Dinner, Dallas Geological Society, and Geophysical Society of Houston.

In the last 20 years I worked in the Gulf of Mexico operations, with Petrobras America, International Explorationist at Marathon Oil Corporation, Landmark Graphics, Knowledge Reservoir, and wore several hats before founding AKD Professional Solutions in 2013. I worked for ONGC in India for 8 years before I worked in Houston. I am fortunate enough to have worked in several world basins and varied geology, during these years. Remote Sensing/ Earth Observation in exploration is my new passion.

I have an MBA from Rice (2010), MS, Geology from Texas A&M University (1997), and an MSc-Applied Geology from Indian Institute of Technology (1984). ■

Mike Erpenbeck

Education

BS Geology, San Diego State University 1977
MS Geology, Texas Tech University 1979
MBA, Finance, University of Houston 1990

Experience

2013-present	Upstream Advisors Group – Manager, Geologist – O&G Valuation, Field Development and Prospect Generator
1997-2013	Ziff Energy Group – Manager U.S. Basin Studies, Consultant
1990-1997	UMC Petroleum – Revenue/Gas Balancing Accountant, Special Projects
1987-1990	Various Firms – Consulting Geologist/student pursuing Business Degree
1983-1987	Hemus Oil &Gas – Manager of Geology
1981-1983	Pilgrim Exploration – Geologist
1979-1981	Texas Oil & Gas (TXO) – Geologist

Memberships

AAPG (Alternate)	Member since 1980, DPA, House of Delegates
HGS	Member since 1980, Board of Directors positions: Treasurer (2012-2013); Director (2015-2016): Chair positions: Office Management Committee (2009-2012); Science and Engineering Fair Committee (2016-present); member of committees: Engineering Council of Houston, Mudrocks
GeoGulf/GCAGS	Organizing Committee: General Chair (2019); Treasurer (2015, 2020)
SIPES	Member 2019

AAPG House of Delegates Candidates *continued on page 18*

AAPG House of Delegates Candidates

continued from page 17

Summary and Statement

I have performed various geological, engineering, and financial functions throughout my 40-year oil and gas career. I spent 10 years finding and developing small fields as a geologist for small independents. For 15 years I conducted and lead a wide range of technical and economic analyses in O & G as an upstream benchmarking expert and leader for an international management consulting firm. I am currently generating prospects in the Fort Worth Basin. I have served previously on the Board of Directors of HGS as Director and Treasurer, as well as Treasurer and General Chair for the 2015 and 2019 GCAGS Conventions. As a past Chair of the Office Management Committee of HGS, I am well acquainted with administrative, personnel, and financial functions of the Society, and have served on several other HGS Committees. I enjoy serving my industry as a volunteer, and my experiences have given me insights in governance issues within our professional societies. I would welcome the opportunity to represent. ■

Inda Immega

Inda Immega studied geology at Texas A&M and, after earning her Ph.D. at Indiana University, worked at Shell her entire career. She is now a full-time volunteer at the Houston Museum of Natural Science, where she is a Master Docent and chairs HGS's Museum of Science Committee. She and her colleagues founded the docent Energy Exchange, which trains and supports docents who volunteer in the Wiess Energy Hall. Inda works in many outreach groups, especially the HGS's Earth Science Week Committee and AAPG's Youth Education Activities Committee. She has served as an elected Delegate or Alternate to the House of Delegates for a good number of years, and would be most honored to continue to use her time and energy in service to the Society's members. ■

Sean Kimiagar

Sean is a Geologist and Technical Advisor at Enverus (fka Drillinginfo) in Houston. He has been an active member of AAPG since 2009, when he attended the Student Chapters Leadership Symposium held in Tulsa, OK, as an undergraduate student. Seeing the volunteering spirit of hundreds of attendees at the meeting, Sean was inspired to become and remain an active member for life. He has since held various responsibilities in student and young professional capacities, among others, including Finance Chair and Treasurer of various local societies, including the Houston Geologic Society and GeoGulf (aka GCAGS). Sean has served as an alternate delegate to the AAPG House of Delegates for years and looks forward to serve again, should he have the honor to do so. ■

David Kronman

I became a member of the AAPG House of the Delegates in 2017 and am also currently serving on the House of Delegates Constitution and Bylaws Committee. Over the past few years our primary focus has been to understand what services member's value, address proposed changes to the AAPG Constitution and Bylaws, and how to retain and grow membership. These are difficult topics, in part tied to persistent market fluctuations, shifting geoscience skill demands, and changing demographics. I am excited to be an active member of this organization (truly awed by the talent and dedication of its members) and am optimistic that many of the ideas/proposals generated in the House will help AAPG thrive and grow. It would be an honor to continue serving as one of your House of Delegate representatives to the AAPG.

I earned my BS in Geology from SUNY Cortland and MS in Geology from Vanderbilt University. My professional career began with Shell Oil in 1982 as a Gulf Coast Development Geologist in New Orleans, with subsequent assignments to Shell's Bellaire Research Center and Pecten International (Shell USA's international division) in Houston. In 1999, I joined EOG Resources as an Exploration Geologist and in 2001 joined Burlington Resources (BR) as a Geologic Advisor. In 2006, I became a member of ConocoPhillips (COP) Global New Ventures Team with subsequent assignments to the Deep Water Gulf of Mexico Business Unit, Indonesia Business Unit in Jakarta (as Chief Geologist), and as Global Geologic Advisor to the Global Chief Geologist in COP's E&P/GGRE Technology Organizations. I retired from ConocoPhillips in late 2015 and am now an Independent Geologic Consultant.

I am a member of the Houston Geological Society, The American Association of Petroleum Geologists (for 30+ years), and the Texas Board of Professional Geoscientists (TBPG License No. 1746). ■

Lanette Marcha

Lanette is grateful for having more than 13 years of experience in the oil and gas industry, both locally and internationally, adding value to companies ranging from a major, to mid-size, to private and national oil companies, as a tri-lingual native Houstonian geologist. She earned her MS in geology from Rice University and currently is a geologic advisor for the Africa Business Unit at Noble Energy, excited to work on development planning opportunities in West Africa, including well delivery. Her multi-faceted experience across more than 12 basins globally includes regional exploration (petroleum system framework analysis/ play based exploration), prospect maturation, appraisal, field

development planning, and operations in projects predominately involving extensional and salt-derived tectonic settings in both clastic and carbonate reservoir depositional environments, from onshore South Texas, Alaska, offshore deepwater GOM, Nigeria, Equatorial Guinea, Cameroon, and Oman.

As a member of HGS, AAPG, SEG, and SPE, she has actively participated in activities both in the US and Middle East; thus, has had the privilege to work with, listen to the drivers of, and learn from geoscientists with very different cultural, religious, and socioeconomic backgrounds. She has presented New Ventures on behalf of Shell at AAPG 2006, presented Budour Field, South Oman at the annual AAPG Middle East Conference 2011, chaired and executed the first annual HGS Fall Family and Friends event 2019, volunteered to be a panel delegate representing both HGS and Noble Energy at the 2019 Exploring Energy Conference at University of Houston to encourage ~1300 high school students from local petroleum academies supported by IPAA/PESA and STEM-interested students from greater Houston area, as well as attended a myriad ACE conventions and HGS activities/conferences. She received the Marilyn Atwater Memorial AAPG Grant-in-Aid Award while at Rice University in 2003.

She is honored to be nominated for and welcomes the opportunity to serve on the HGS-AAPG House of Delegates as an early mid-career geoscientist enthusiastic about the future of HGS and AAPG organizations, including their guiding principles, membership growth, and activities fostering development of current professionals, college students, and those aspiring to be geoscientists and/or work in the energy sector. ■

Kenneth Mohn

Kenneth Mohn started in the oil industry during college (1982) as a Field and Wellsite Geologist for a small independent company in East Texas. Kenneth graduated with a Bachelor of Science degree and a Master of Science degree in Geology from Stephen F. Austin State University and went to work for TGS Geophysical Company in Houston, Texas in 1987. Kenneth worked for 30 years in the seismic industry with three companies, TGS, Fugro and MCG, working to develop seismic surveys in the Gulf of Mexico, Africa, Mexico, Central and South America. During this time Kenneth has served in the AAPG House of Delegates for two terms and as an alternate representative for the Houston Geological Society Chapter at many of the AAPG conventions in between.

Kenneth is currently working for Axxis GeoSolutions (AGS) as Vice President of Multi Client New Ventures. Currently he is completing a term as 2nd Vice President of the Geophysical Society of Houston and ending a term as an Alternate Delegate for the AAPG at the same time this Spring.

Kenneth has worked on membership drives and has encouraged Geologists around the world to join the AAPG and become active participating members of our Society. The AAPG is a valuable resource and network for geologists and explorationists in our industry. I am interested in the AAPG and would be glad to serve in the House of Delegates. ■

James V. Richards

Education

Ysleta High School, El Paso Texas
University of Texas Austin, Texas
BS in Geology Class 1956
University of Texas Austin, Texas
Post Graduate Study 1960

Experience

- 60 Years in Oil and Gas Exploration
- Certified AAPG Petroleum Geologist #115556
- Houston Geological Society, Executive Board 1996-1997
- Present and Longtime AAPG Delegate to National Convention
- Past Treasurer of SIPES, Houston Chapter
- Ex-Board Member University of Texas Jackson School of Geoscience Alumni Group
- Area Geologist for Coastal States Gas Producing Company in Abilene, Texas and Lafayette, Louisiana
- Coastal States Gas Producing Company, Offshore Manager, Houston, Texas
- Texas Offshore Geological Manager King Resources Company
- Assistant Geological Manager Pengo Petroleum, Houston, Texas
- Managed Weeks Petroleum Houston Office (Later became Santos U.S.A.)
- Managed Houston office for Genesis Petroleum Company
- Managed Crossroads Oil Company office Houston, Texas
- Founding Director of Louisiana Offshore Ventures, Subsidiary of Houston Energy, Houston, Texas
- Managed Houston office for Genesis Producing Company
- Exploration Manager, SOLA Oil and Gas, Houston

Publications

- Block 60-s Field, 3-D Case Histories, GCAGS Special Publication
- Numerous Essays Published SIPES, HGS, AAPL

AAPG House of Delegates Candidates *continued on page 20*

AAPG House of Delegates Candidates

continued from page 19

Military Service
Retired Commander in the U.S. Navy with 20 years active and reserve service

Memberships
Houston Petroleum Club
Houstonian Club
Onshore Exploration Independents
SIPES
Chief Geos
AAPG ■

Judy Schulenberg

It would be an honor and privilege to again serve the HGS as a member of the AAPG House of Delegates. I have worked in the oil industry for 30 years with experience in both conventional and unconventional plays, beginning with Amoco, Geophysical Development, Geoquest, GeoGraphix and Landmark. I have worked the last 15 years first with Swift Energy followed in 2008 by Southwestern Energy, as G&G supervisor and then in Training and Development. I am AAPG certified in both Geology and Geophysics. During a previous downturn, I was employed as a contract landman and as the lead litigation and technical assistant on a lawsuit concerning the Valdez oil spill. Currently a consultant, I will be continuing projects begun by my late husband, Mike McCardle, as Explorer Group 1.

I am currently serving as HGS Board Secretary, have worked on the HGS continuing education committee and am currently serving on the Calvert Foundation Scholarship Board. I'm active with University of Houston (where I received my degree in Geology with Geophysics option) and served this year as an industry consultant to their IBA competition team. I was a founding member of the University of Houston College of Natural Science and Mathematics Alumni Organization and served that group as Scholarship Committee chair for several years. During my tenure there, we raised over one million dollars to endow student scholarships through the Quest for Excellence Gala. I continue my involvement with U of H working with the College of Natural Sciences and Mathematics to develop a program of "soft skills" workshops to help students in their career quests. I have taught Landmark, Geographix and Unix courses at North Harris Community College (now Lone Star), helping both young professionals and senior interpreters learn new technologies to improve their chances for employment and/or promotion. ■

James Schultz

James Shultz "Jake" is a geoscientist at ExxonMobil in Houston, TX, and currently works the Delaware Basin for the XTO Energy division. He entered the oil and gas industry in 2012 with Ames Energy Advisors in San Antonio while attending Trinity University, and then went on to work for the Texas Bureau of Economic Geology while attending graduate school at the University of Texas at Austin. After completing his graduate studies in 2015, Jake began work for XTO Energy (a subsidiary of ExxonMobil) in Fort Worth. In the summer of 2018, Jake moved to Houston with XTO Energy/ExxonMobil.

His love of geology started with an oversized rock collection as a small child. This love grew into permeability experiments in grade school and continued to flourish as he became a member of AAPG in 2012 while studying Geology at Trinity University. Jake has gone on to work basins in China, Canada, and across the Lower 48. He is also an active SPWLA member as well as a contributing member of the HGS NeoGeos committee. Jake enthusiastically shares his passion for geology as he engages with and supports both students and educators.

I am honored to have been asked to serve as a candidate for the AAPG House of Delegates. While intellectually rewarding, I believe that our profession plays a key role in ending global energy poverty as well as providing the means for a sustainable future for generations to come. AAPG provides the education and support necessary to make ideas become reality. AAPG provided me not only educational classes and a venue to collaborate on my research with leaders in our field, but also provided a supportive community that has enabled me to have a very rewarding career. I look forward to the opportunity to give back to this organization that has been so impactful to not only my life to but more importantly, lives across the globe. ■

Dianne Tompkins, PhD.

I have been a member of AAPG for 30 years since 1990 and as I am recently retired and living in Montgomery, Texas I am now affiliated with HGS. I am a career geoscientist, having worked globally since obtaining my doctorate from Imperial College in London. I have lived and worked all over the world and have always been involved with my AAPG affiliates local such as PESGB (Petroleum Exploration Society

of Great Britain) and PESA (Petroleum Exploration Society of Australia). Apart from working for many multi-national companies such as Shell, COP and Chevron, I also have a postgraduate teaching diploma. I was the first Executive Officer for Earth Science Western Australia responsible for expanding Earth Science outreach to schools and colleges first in Western Australia and then into the country as a whole. I undertook this position as I feel that earth science education is extremely important and in some areas sadly lacking and I would like to see that change. In addition, I feel that we, as AAPG members, need to be more proactive in advocating for our industry, especially in these difficult times. I believe that these changes can be brought about if we all work together in leading AAPG and HGS into what can and should be. ■

Jim Tucker

The AAPG House of Delegates is the legislative body for the Association, reviewing, discussing, and voting on matters of importance beyond the daily operations of the AAPG. Importantly, it is the group charged with maintaining the membership by encouraging qualified colleagues to join, and ensuring that the professionalism and quality of the membership is maintained. I have been a Delegate or Alternate Delegate from the Los Angeles Basin, Dallas, Houston, and Dhahran Affiliated Societies, and look forward, if elected, to further serving the Association's Membership. ■

Continuing Term 2019-2022 HGS Delegates

Jeff Allen

Robert Archer

Richard Ball

Jon Blickwede

Jennifer Burton

Matt Campbell

Martin Cassidy

Cheryl Desforges

Craig M. Dingler

Meridith Faber

Gretchen Gillis

Barry Katz

Rosemary Laidacker

Casey Langdon

Shannon Lemke

William "Bill" Matthews

Ronald Nelson

Robert Pledger

John Pritchett

Ellya Saudale

Scott Sechrist

Gary Steffens

Justin Vandenbrink

Nicole Villereal

Patty Walker

Expiring Term 2017-2020 HGS Delegates

Michael Barnes

Steven Brachman

Margaret Dalthorp

Inda Immegat

David Kronman

Mike Erpenbeck

April Parsons

James Richards

Judy Schulenberg

Sarah Stanley

James Tucker

At Large Delegates

Dick Bishop

George Bole

Paul Britt

Martha Lou Broussard

Larry Jone

Jeff Lund

Dan Smith

Charles Sternbach

Remembrance

Byron F. Dyer
March 3, 1931 – April 18, 2020

Byron Fred Dyer, Jr. was born in Dallas, Texas on the 3rd of March 1931. He lived his earliest years in Houston, Texas and spent his teen years in Mont Belvieu, TX, where he graduated from Barber's Hill High School. Byron attended Baylor University until he was called to serve in the United States Army during the Korean War. He was stationed in Germany and served as a lieutenant for a unit based in Nuremberg. Upon his return to the United States, Byron enrolled in Lamar University in Beaumont, TX, where he received a Bachelor of Science in Geology in 1957.

After graduation Byron was hired by Tidewater Oil Co. to work as an exploration geologist at their district office in Corpus Christi, TX. It was there that he discovered his love for the oil business, particularly the upstream segment of oil and gas exploration. Following several years with Southland Royalty Co. and Texas Eastern Transmission Co., Byron and his family relocated to Houston where he served as District Manager for King Resources. A couple of years later, Byron was hired by Boone Pickens to manage the Gulf Coast division of Mesa Petroleum Co. After several years with Mesa, he made the decision to venture out as an independent geologist and formed his own outfit which he named Sierra Production Co. Little did he know that his legacy would be molded by the decision he made that day.

In 1982 Byron was approached by Norcen Ltd., a Canadian based oil and gas company, who presented an offer for him to develop a U.S. subsidiary of their business under the name Norcen Explorer, Inc. He would go on to serve as President and CEO of the company for fifteen years. After building the company from the ground to nearly 100 employees Byron retired, leaving behind a successful and highly functioning company that had become a major player in the Gulf of Mexico in offshore exploration and production. His retirement was only temporary, as he soon shifted his focus towards the world of banking. In the mid 1990's, Byron gained a controlling interest in Community Bank located in Katy, TX where he also served as Chairman of the bank for a number of years. He thoroughly enjoyed the banking business and the people he worked with. Together they were all able to grow the bank to a second location, and eventually sold to Sterling Bank in 2002. It became the perfect second career for Byron and, upon the completion of the sale, his retirement was fulfilled.

Byron was a member of several professional organizations including: The American Association of Petroleum Geologists (AAPG), The Houston And Corpus Christi Geological Societies, SIPES and the AAPG Foundation Trustee Associates. In 1996 he received one of the most coveted honors in the Oil and Gas industry when he was inducted into the All-American Wildcatters Association.

Unlike many, Byron was also able to fulfill a dream of every geologist: in 1957 he was credited with the discovery of a new mineral that was eventually named *Chambersite*. The name was derived from Chambers County, where the mineral was first observed. While working in Mont Belvieu, Byron was asked to look at some brine returns from a gas storage well containing some mysterious and unfamiliar crystals. Once presented to Dr. Frank Beck, a mineralogy professor at Lamar University, it was confirmed that Chambersite was indeed an unfamiliar mineral to him as well. Dr. Beck later provided the complete scientific description of Chambersite to *The Journal of The American Mineralogist*. Byron F. Dyer, Jr. was then credited with the discovery of this beautiful mineral.

Throughout his Houston years, Byron enjoyed golfing with his buddies at Lakeside Country Club. He was an accomplished tennis player as well, but recurring tennis elbow put an end to that activity in the 1980's. He loved the great outdoors and always looked forward to game bird hunting and many fishing trips in South Texas, Mexico and Louisiana (and wherever else he could sneak away to). His biggest love of the outdoors was found in Falfurrias, TX where he spent many Thanksgivings at his Palo Blanco Ranch with family and friends. While cattle are an important part of the ranch, there

Remembrance

Walter Dean Grafton
September 21, 1924 – April 6, 2020

Dean Grafton was born September 21, 1924, in Mt. Pleasant, Ohio. He attended school in this coal mining community through high school. Dean was involved with the church from very early on, and graduated from the Cradle Roll Department of the Mt. Pleasant Methodist Church to the Beginners Department in 1928 at age four. After graduation from high school in May, 1942, Dean began his collegiate studies at Ohio State University. His studies were interrupted in 1943 by WWII when he enlisted in the U.S. Navy and began training at the Great Lakes Naval Station. He served at Great Lakes until 1944, attaining the rank of Seaman First Class. When preparing for deployment, Dean was found to have serious problems with his feet and he was excused from service and honorably discharged. Dean returned to Ohio State University and graduated in 1948 with a Bachelor of Science degree in Geology. He began his career in petroleum geology in the Permian Basin of West Texas in January, 1949. After five years in West Texas, Dean moved to Houston and remained there throughout the remainder of his career. After 36 years of service in the petroleum industry, Dean retired from Occidental Petroleum, having previously worked for Cities Service Oil and Gas. Dean married his wife, Georgia Hosek, in 1965. Georgia was very supportive of Dean's geologic activities while pursuing her own career as an artist. Dean was active in several geologic organizations, particularly the Houston Geologic Society where he served in several administrative positions, including President. In addition to HGS, Dean was a member of AAPG, the American Institute of Professional Geologists (AIPG, President, 1984), and the Texas Section of AIPG (President, 1985). Dean was very active in Chapelwood United Methodist Church, serving as Head Usher for many years. He participated in many of the church's activities as a member of the Administrative Board, a lay delegate to the Texas Annual Conference, and a member of Pastor-Parish Relations Committee. Dean was a unique individual with a superb intellect who valued his independence. His reading was remarkable, from current publications to a myriad of non-fiction books. His special interests included military history, biographies of significant historic figures, and all aspects of religions and Christianity. He was a devout Christian and a true believer in the Bible and its teachings. Everyone should be comforted knowing that Dean is now in heaven, at peace, and joined once again with his wife Georgia. May he rest in peace. ■

The above information is from https://www.dignitymemorial.com/obituaries/houston-tx/walter-grafton-9113078.

Remembrance Byron F. Dyer *continued from page 22*

was no substitution for the deer, nilgai, turkey, dove, quail and the beautiful South Texas sunsets he loved to observe with his family. Based on the music played on those trips, he loved those Cheeseburgers in Paradise, wanted to be a Highway Man and taught everyone to always appreciate The Sounds of Silence.

Byron was preceded in death by his parents, Byron Fred Dyer and Hallie Epperson Dyer; his daughter, Stephanie Leigh Dyer (1965-1974) and his son, Jeffrey Lane Dyer (1960-2019). He is survived by his wife of 60 years, Constance Mayes Dyer; his daughter, Kelly Elaine Gabrisch (Mark) and his son, John Steven Dyer (Christina Gill Dyer). He is also survived by eight grandchildren. ■

Summarized from Life Tributes section of the *Houston Chronicle* on April 26th by Mr. John Tubb. The original publication can be found at: https://www.legacy.com/obituaries/houstonchronicle/obituary.aspx?n=byron-dyer&pid=196027095&fhid=6290

Remembrance

Paul Kaminsky
1930-2020

Paul David Kaminsky was born June 12, 1930 in Worcester, MA to George and Victoria Miller Kaminsky. Paul was a man of amazing intelligence coupled with a dry wit and endless patience. After graduating from Newton High School, he headed for the Massachusetts Institute of Technology in 1948. With both a bachelor's degree and master's degree in geology under his belt, Paul left MIT in 1953 to serve for two years with the U.S. Army as a First Lieutenant during the period of the Korean conflict. While stationed in Richmond, Virginia, Paul met a Southern belle, Charlotte Doggett, and they were married February 12, 1955 and shared life together for 65 years. Paul and Charlotte moved to Houston in 1955 where Paul began his 43-year career in the petroleum industry as an Exploration Geologist working for Shell Oil Company, Sunbelt Exploration, Mosbacher Energy and Wainoco. His career took them from Houston to Tyler, Corpus Christi, Denver, Midland and ending back in Houston. Paul joined Houston Geological Society in 1974. Paul is survived by his wife, a son, a daughter, five grandchildren and three great grandchildren. ■

The above is summarized by Mr. John Tubb from Life Tributes section of the *Houston Chronicle* on April 5, 2020. (The original obituary can be found at https://www.legacy.com/obituaries/houstonchronicle/obituary.aspx?n=paul-kaminsky&pid=195870416&fhid=26633).

Remembrance

Michael F. McCardle

Michael Frane McCardle was born in Manila, The Philippines on November 5, 1940. He was the first child of Jack Baley McCardle and Margret Iola Frane McCardle.

As the Second World War threatened the Western Pacific, Mike's family evacuated from the Philippines in March 1941, ahead of the Japanese invasion. Returning to the United States, his father joined the Army and was stationed at the Savanna Army Ordnance Depot in Jo Daviess County, Illinois.

After WWII the McCardle family returned to Fresno, California in 1946, where they had extended family. Mike attended elementary and junior high schools there and in 1956 moved with his family to Lafayette, California, just east of and across the bay from San Francisco. In Lafayette he became very active with the Lafayette Methodist Church and attended Acalanes High School, lettering in both wrestling and football. During this time, he earned a Life Membership in the California Scholarship Federation. He graduated in 1958 and received academic scholarships to both Stanford University and the University of California (Berkeley). Following in his father's footsteps, he entered Stanford. There, he studied physics and became the manager of the infamous Stanford Marching Band.

In late 1963, prior to graduating, Mike left Stanford and joined the US Army. He was assigned to the Army Security Agency and the National Security Agency. He attended an Honors NCO Academy and Officer's Candidate School where he graduated as a First Lieutenant. He was assigned to the 1st Brigade of 101st Airborne Division and later went through Jump School, completing the fifth and final jump with a broken foot so he didn't have to repeat the test. He then joined the Army Special Forces, the Green Berets. Mike served in Vietnam from the fall of 1967 to the end of 1968 earning the rank of Captain. While in Vietnam Mike's father, a civilian contractor, had a brief stop in-country and they had a rare opportunity to have Christmas Eve dinner together at the firebase where Mike was stationed. It was a memory that Mike treasured and spoke of often. Mike was awarded two Bronze Stars, one with V for valor for heroic actions in combat.

He was always guarded about his military experiences in any relationship. He, like most battle veterans, was reluctant to speak with others unless they shared the same or similar experiences. He suffered greatly from PTSD and finally found peace and purpose at The PTSD Foundation's Camp Hope, helping others cope with their own PTSD related problems. These relationships were a major source of comfort to him, exemplifying the motto "Physician – Heal Thyself". These experiences, both good and bad, brought Mike closer to God and endowed him with great empathy for those suffering. His twenty years volunteering with Houston Hospice, dealing primarily with veterans, stand as testimony to his sense of duty to help others.

After returning from Vietnam and his discharge from the Army, Mike resumed his undergraduate studies at Stanford. He received his Bachelor's in Geophysics in 1970 and two Master's Degrees in 1972, one in Mineral Engineering and one in Geophysics which included a field seismic study of the then relatively unknown Mono Lake. A few years later, in 1978, Mike earned his MBA from The University of Houston.

In early 1972 Tenneco's Mineral Division in California hired him as a geophysicist and the following year he was transferred to Tenneco's Oil and Gas Company in Houston, Texas. For the next two years he worked both the Gulf Coast and Frontier Projects Divisions as a geophysicist. He joined Getty Oil's Gulf Coast Division in Houston in 1976 and remained there for four years. 1980 brought a move to Lafayette, Louisiana and a new job as District Geophysicist for Union Texas Petroleum. A return to Houston to supervise a group with Sohio in 1983 gave Mike a chance to finally settle in one spot for more than five years. From the late 1980's to the time of his death Mike continued to pursue his passion and enjoyment of geophysics as a consultant through his company, Explorer Group 1. He had a very deep understanding of Geophysics, and especially an intuitive knowledge of what could be a seismic representation of a good "Lead" or prospect. While Mike had many successful and profitable projects, his greater passion was the analysis and problem solving to get to an answer. He loved the work and the science.

On a project in Death Valley, California, Mike met his first wife Ruth Ann Barber. Married in 1973, they had four children: Kevin, the twins Erin and Meghan, and Tim. They divorced in 2000. Michael loved his children. He was heavily involved with sports with the boys and music with the girls. While Ruth Ann, a piano teacher, lead the way in teaching the girls music, Mike attended as many recitals and concerts as time allowed. Two good measures of a parent's love are seeing its reflection in the child's later memory and in the closeness that the adult child has with the parent. Tim, Mike's youngest and now a nurse and First Lieutenant in the Air Force, said not long ago, "Dad would fight off and hide the pain from arthritis just to throw the baseball or hit grounders with his sons. Looking back when Dad and I had spoken about past experiences I could vaguely remember the slightest of cringes on his face as he would swing the bat or

Michael F. McCardle *continued on page 26*

Remembrance Michael F. McCardle continued from page 25

throw the ball. He never complained, he was just enjoying the little moments with me." And, later in that same conversation while talking about adult life, Tim continued with, "He was also one of the easiest people to talk to, I fondly remember many occasions where we spent long hours talking and BS-ing about life, love, and all the crazy things that come our way, sometimes until the sun came up, and usually with a good drink in hand."

Mike met fellow geophysicist Judy Schulenberg in late 2000 and they developed a friendship over many months; that friendship matured into a deep love and they married on November 22, 2003. While both enjoyed their work as geophysicists, Judy and Mike also loved singing with their church chancel choir at St. Luke's United Methodist, where Mike also sang with the men's choir, Veritas. They sang in the chorus for several summer operas at Lone Star College Kingwood and joined the Kingwood Chorale. People who knew them often referred to them as a "perfect fit". Mike had a true love of animals all his life, which included a wide range of pets, most recently two "worthless" Shelties who adored him and continue waiting by the backdoor for him to come home at night.

Mike was active in the Houston Geological Society and served on the Continuing Education Committee for many years. He also served on the Outreach Committee of the Geophysical Society of Houston and was a member of the Society of Exploration Geophysicists. He was a Life Member of the University of Houston Alumni and the University of Houston College of Natural Sciences and Mathematics alumni and attended many functions of the local Stanford Alumni group. He was always a willing mentor to younger, less experienced geoscientists.

Mike was extremely well read and enjoyed friendly debates on subjects from philosophy and religion to sports and opera. He had a love of choral music and relished adding his bass voice to Kingwood Chorale's production of Handel's Messiah, which is where Mike and Judy celebrated their 16th and last anniversary. He loved gardening and red scratches on his arms and face often evidenced his beloved roses taking exception to his pruning shears. He loved working with kids and, not being known for doing things half-way, he became a leading Little League Umpire for Fort Bend County, gladly accepting all the joys and headaches that come with that job. He loved every minute of being there with the kids. He also enjoyed watching granddaughters, Larkin and Michayla, play softball in his last years. He was proud of his Irish heritage and was known for passing out green carnations to the ladies wherever he was working on St. Patrick's Day, leading more than one colleague to deem him "The World's Largest Leprechaun."

Mike was a kind and loving individual, full of charity, but one who didn't suffer fools gladly. A poster that once hung on his wall said, "Lead, follow, or get the hell out of the way." It summed up Mike's view of most of his involvements, "take charge of it, support it, or don't waste someone else's time or mine."

After suffering an inoperable brain hemorrhage, Michael Frane McCardle departed this life at 3:12 PM on March 24, 2020 at the Methodist Williowbrook Hospital in Houston, Texas.

He is survived by and is greatly missed by his loving wife, Judy Schulenberg of Spring, Texas, and his children: Kevin McCardle and wife Tasha of Katy, Texas and their daughters Larkin and Michayla; Timothy McCardle and wife Tracy of San Antonio, Texas and their children Josh, Ben, and Annabelle; Erin McCardle Chen and family of Boise, Idaho and Meghan McCardle Dahlin and family of Boise, Idaho. Stepsons: Mike Schulenberg of Spring, Texas; Dr. Stefan Schulenberg and wife Laura, of Oxford, Mississippi and their son Ezra. Sister:Penelope Frane McCardle Kammeijer and husband Christiann Jan of Pleasanton, California. Niece and Nephew:Andrew Kammeijer of Pleasanton, California; Rebecca Kammeijer McIntyre and husband Marc of Oakland, California and their sons Ian and Jack. And many, many friends.

Mike can best be described by the following quote:
"Down these mean streets a man must go who is not himself mean, who is neither tarnished nor afraid. He is the hero; he is everything. He must be a complete man and a common man and yet an unusual man. He must be, to use a rather weathered phrase, a man of honor—by instinct, by inevitability, without thought of it, and certainly without saying it. He must be the best man in his world and a good enough man for any world… If there were enough like him, the world would be a very safe place to live in, without becoming too dull to be worth living in." – Raymond Chandler

"Be watchful, stand firm in the faith, act like men, be strong. Let all you do be done in love." I Cor 16:1314 ESV

In lieu of flowers: while Mike and Judy both love flowers, the family would ask that donations be made to the following or a charity of your choice:

Camp Hope (PTSD Foundation of America)
9724 Derrington Road
Houston, TX 77064
https://ptsdusa.org/

ARRANGEMENTS are pending at this time and will be held at a time when the Covid-19 restrictions are lifted, and Mike's life can be celebrated with the honor he deserves; consult the following for announcements:

American Heritage Funeral Home
10710 Veterans Memorial Drive
Houston, TX 77038

https://www.dignitymemorial.com/funeral-homes/houston-tx/american-heritage-funeral-home/4196

Many of you have "Mike Stories." If you have one that you would like to share and/or an old photo of Mike, the family is collecting them to put into a pamphlet that will be given out at the Memorial Gathering. So, if you have a story and/or a photo send it to William Green (whgconsulting@gmail.com). ■

HGS *Bulletin* Instructions to Authors

All materials are due by the 15th of the month, 6 weeks before issue publication. Abstracts should be 500 words or less; extended abstracts up to 1000 words; articles can be any length but brevity is preferred as we have a physical page limit within our current publishing contract. All submissions are subject to editorial review and revision.

Text should be submitted by email as an attached text or Word file or on a clearly labeled CD in Word format with a hard copy printout to the Editor.

Figures, maps, diagrams, etc., should be digital files using Adobe Illustrator or Adobe Photoshop. Files should be saved and submitted in .ai, .eps, .tif or .jpg format. Send them as separate attachments via email or CD if they are larger than 5 MEGs each, accompanied by figure captions that include the file name of the desired image. DO NOT EMBED them into your text document; they must be sent as separate files from the text. DO NOT USE POWERPOINT, CLIP ART or Internet images (72-DPI resolution) as these do not have adequate resolution for the printed page and cannot be accepted. All digital files must have 300-DPI resolution or greater at the approximate size the figure will be printed.

Photographs may be digital or hard copy. Hard copies must be printed on glossy paper with the author's name, photo or figure number and caption on the back. Digital files must be submitted in .tif, .jpg or .eps format with 300-DPI or greater resolution at the printing size and be accompanied by figure captions that are linked by the file name of the image. The images should be submitted as individual email attachments (if less than 5 MB) or on CD or DVD.

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The *Bulletin* is printed digitally using InDesign. Call the HGS office for availability of ad space and for digital guidelines and necessary forms or email ads@hgs.org. Advertising is accepted on a space-available basis. **Deadline for submitting material is 6 weeks prior to the first of the month in which the ad appears.**

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Mail this application and payment to:

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