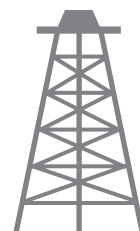




Pacific Petroleum Geology



NEWSLETTER

Pacific Section • American Association of Petroleum Geologists

November and December 2021



Lakeview Gusher, Midway Sunset Field, 1909

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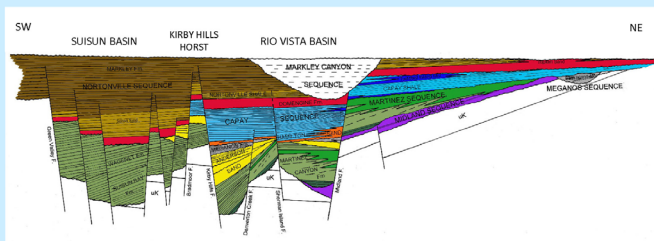
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Advances in the Geology of the Sacramento and Northern San Joaquin Basins

since PSAAPG Miscellaneous Publications 41 and 43

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2021-2022 Officers

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President-Elect	Plamen Ganev 310-562-8654 president-elect@psaapg.org
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Editor-in-Chief	Tony Reid 661-303-7817 tonyr0209@gmail.com editor@psaapg.org

Staff

Web Master	Mike Clark 661-378-8134 rocksniffer@aol.com
Membership Chair	Simmie Chehal 661-665-5738 SKChehal2@aeraenergy.com
Publications Chair	Larry Knauer 661-205-4463 laknauer@aol.com
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Cover: Lakeview Gusher, Midway Sunset Field, Kern County, California. The 1909 blowout lasted 18 months and flowed an estimated 9 million barrels of oil. Photo by Robert B. Moran, and, courtesy of Bil Rintoul, was reprinted in *Structure, Stratigraphy and Hydrocarbon Occurrences of the San Joaquin Basin, California* (PSAAPG GB65, 1990).

Submit an Article to the Pacific Petroleum Newsletter!

- CONTACT THE EDITOR at editor@PSAAPG.org
- Images (graphics, photos, and scans) must be at least 300 dpi resolution. Text should be at least 600 dpi.
- Scanned photos, illustrations (line art) or logos should preferably be submitted as a .tif, .gif, or .bmp; .jpeg

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Dear PS-AAPG Members,

I wish you all a very happy holiday season and New Year. May 2022 be a wonderful year for you and your families.

I have a long list of subjects I want to touch upon (the SPE-AAPG merger, Convention planning, YPs entering the workforce, Civil Engineering stamp requirements, local industry, comparing what wellbore stimulation means in CA versus the rest of the world, water as a commodity, how laws are ratified, and exploring how industrial green energy used in the wrong economic setting is environmentally destructive), but space and time are of the essence, so I will keep this short. I will save these other topics for future notes and update you on the merger process before discussing the California rig count.

SPE-AAPG Merger Update

In May 2021, The American Association of Petroleum Geologists (AAPG) and the Society of Petroleum Engineers (SPE) announced an exploration of the benefits and opportunities of a merger creating the energy professionals' organization for the future. With unanimous consent from the AAPG Executive Committee and the SPE Board of Directors, a steering committee was created to explore opportunities to form a new combined organization in response to an evolving energy sector and challenging COVID-impacted market environment.

The most recent meetings regarding the merger occurred from September 26 through October 1, 2021, at the IMAGE Convention in Denver. The AAPG Executive Committee met twice, the House of Delegates (HOD) met once, and a general Leadership Meeting was also held. The HOD received additional details about the merger and overviewed the legal path outlined by AAPG's attorneys.

The Executive Committee reviewed the confidential merger proposal. This proposal addresses the mission, vision and values of the merged organization; the corporate structure, the governance, the membership model,



and the fit of the components of AAPG if there is a merger. After the Steering Committee addresses questions from the Executive Committee and the SPE Board of Directors, members will receive formal notification and, 30 days after that, the opportunity to state their preference during a voting period of 60 days. A quorum of 25 percent will be required, and a majority vote will determine the outcome.

Since then, in October, the Society of Exploration Geophysicists (SEG) also joined the discussion. SEG President Anna Shaughnessy set up a Task Force to explore all possible strategic options for the future of their Society. The Task Force's goal is to examine which strategic option is in the best interest of SEG's membership. It will then put forth a recommendation that will support the strategic mission and vision of their Society. The Task Force is in discussion with AAPG to determine whether a unification of the two societies would be advantageous. The decision to begin joint discussions is not a decision to merge, but an attempt to explore and understand how and if a merger would add value to their members.

AAPG Leadership is still working on what guidance they will provide to PS-AAPG and the other Sections, and no information is yet available.

The timeline is still in place and on schedule:

- October 2021 - February 2022:
 - Chart pathway to approval
 - Finalize governance and membership models
 - Begin legal and financial due diligence
 - Create sub-teams to discuss publications and key programs
 - Begin branding work, finalize mission and vision, and create the new name
 - Create Integration teams
- February - April 2022:
 - Society memberships votes
- April - June 2022:
 - Finalize organizational design and deliverables for merger

In essence, little has happened since my last column.

On a local level, PS-AAPG is in the final phase of identifying candidates for the “way forward” Committee. I had requested input from membership but have received very little.

So, with that said, I’d like to reiterate that as energy scientists, we have an opportunity to recreate ourselves. I believe we have a moral duty to society to serve and educate our community and broaden our outreach to encompass the future energy needs of those that we serve. Please engage with your local society leadership or reach out to me directly (GeologistVaughn@gmail.com).

The current federal administration is promoting green energy programs while at the same time working to shut down the domestic fossil fuel industry. This is especially evident here in California. The question is not whether we move to renewable energy, but how the transition is managed. Fossil fuels will be part of the energy mix for decades to come, and the question for us in California is whether we continue to produce under the strictest environmental regulations or import hydrocarbons from countries that do not share our concern for the environment or human rights. The members of PS-AAPG, along with the other members of the oil and gas industry here in

California, are trained and experienced in the production of low-cost energy for the communities in which we live. We are also uniquely positioned to participate in the green energy economy (i.e. carbon capture and sequestration) and have the moral obligation to educate those around us as we maneuver through the transition.

Prior to Covid, the main theme at PS-AAPG was succession planning and membership collapse brought on by the 2014 “shale glut”. Membership was already at a critically low level then. The disproportionate loss of jobs amongst younger and older members has created an even more acute membership problem (to be covered in later issues). Many of our veterans have retired and have left California for more financially favorable locations, while many of our younger members have left the industry, or have joined state agencies.

Prior to the 2014 crash that we are still feeling, several other major collapses had occurred. Those were, however, distant memories for many members, especially for the newly entered “Young Professionals”. They that had not lived through the drawn-out industry slowdown of the mid-80’s to late-90’s, which saw equally destructive workforce decline as the 2014-2020 double whammy.

In 2014, the Pacific Section Rig count was sitting at a (moderately healthy) 58 rigs (48 in CA and 10 in Alaska; Figure 1, next page). Even though oil prices doubled from a low of \$30 in 2016 to an average of \$60 in 2020, very little rig growth was witnessed (about 20 on average). The slow rig growth was a result of local regulatory uncertainty, and anti-oil politics leading an effort to de-emphasize fossil fuels. Market uncertainty, a focus on delivering cash to shareholders (rather than growth through drilling), and capital restraint also played a role but, in my opinion, were dwarfed by political uncertainty.

Currently, the California Rig Count is 10, up from 4 one year ago. The Alaska rig count is 6, up from 3 one year ago. WTI recently slipped to the mid-60’s but has seen sustained prices between \$70 - \$80 in recent months. With such increases in commodity

Pacific Section Rig Count and Observations

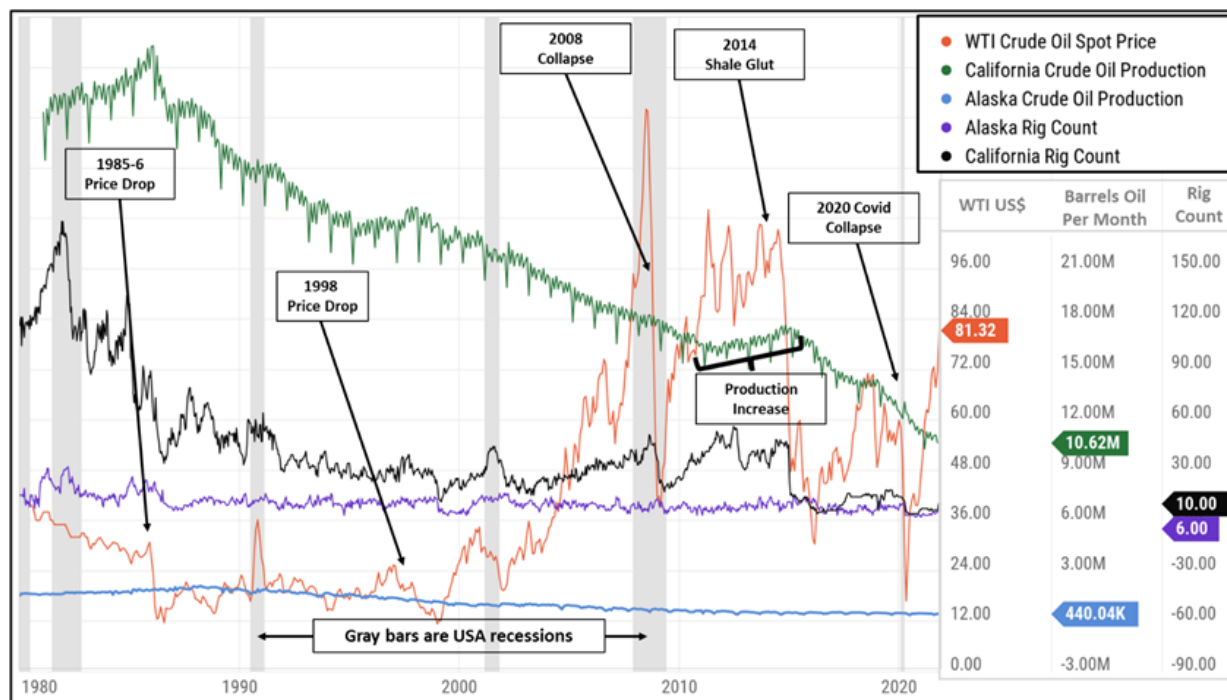


Figure 1: 1980-present rig Count for California and Alaska (other Pacific Section areas have no active rigs). Also included is WTI Crude spot price (US\$), California's and Alaska's Crude Production (Barrels of oil monthly).

Source data: EIA. Compiled in Y-Charts.

prices, rig utilization has not grown.

California is currently producing under 400,000 barrels of oil per day (10.62 Million barrels per month), down almost 7% from one year ago. Alaska is producing about 14,000 barrels of oil per day, down about 4% from one year ago. California consumes roughly 1.8MM barrels of oil per day. The gap between supply and demand is covered by imports. A large proportion of the required hydrocarbons are imported from countries that do not share our emphasis on health, safety, the environment, or basic human rights.

There is an obvious correlation between production, drilling, and oil price. It is remarkable to note that California increased production from 2010-2014. Rapidly, California added almost 17,000 barrels of oil per days with under 50 rigs active. The anti-fossil fuel groups in California often say that oil's constant decline is a reality that the industry must face, but the increased production is clear evidence that decline is a result of **lack of investment and innovation**.

A lack of drilling investment, exploration,

innovation, and technology, compounded with unfavorable politics are to blame for California's declining production. Rather than innovating, applying new technology, and secondary and tertiary production techniques, we have mostly resorted to low-risk infill drilling. California's State mandate to ban stimulation, while slowing drilling projects and halting injection, is compounding the effects of underinvestment.

Clearly, the heyday of Californian production does not have to be behind us.

We as scientists NEED, now more than ever, to participate in political dialogue to educate policy makers that we are not the enemy, but the solution. We provide inexpensive, clean energy, we preserve nature and water, and we do it all while carrying enormous negative political weight on our shoulders.

I wish you all a safe and fun holiday season.

My warmest regards,

Vaughn G. Thompson

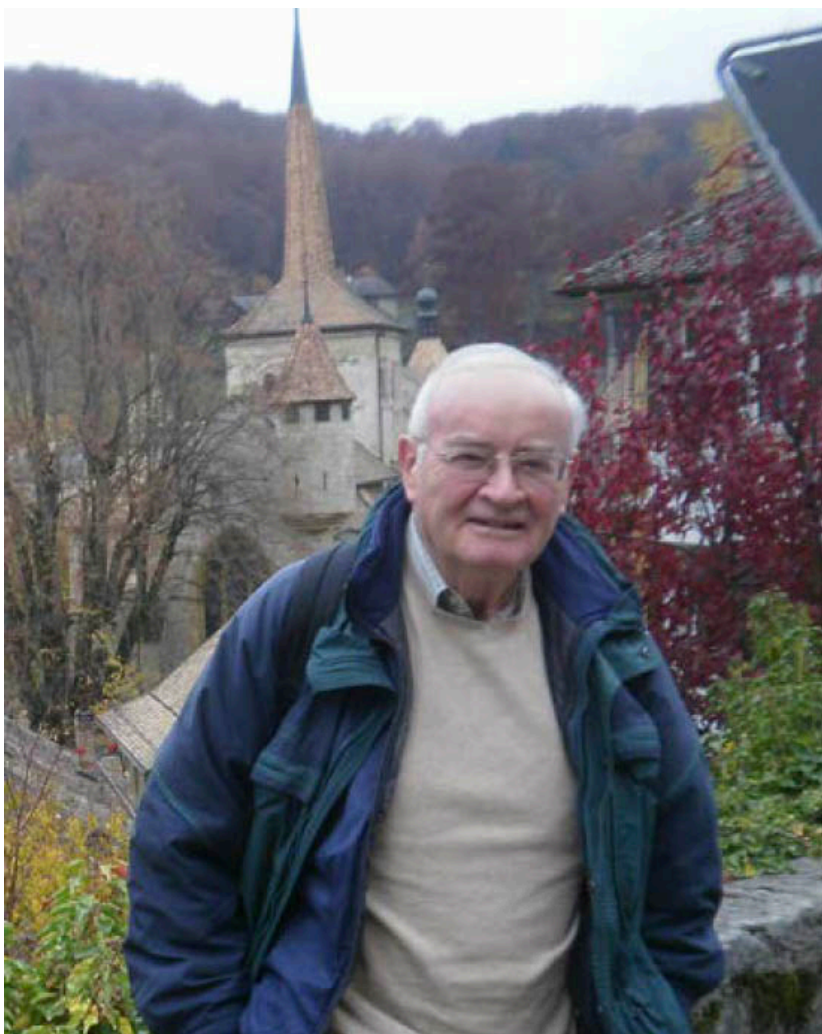
In Memoriam: Robert E. Garrison (1932–2021)

One of the greats of California geology is gone. Professor Robert E. (Bob) Garrison passed away on Friday, November 26, 2021, at his home in Santa Cruz, in the presence of his wife Jan, son James, and daughter-in-law Alma.

Bob Garrison was one of the original group of six faculty members that established and developed the Earth Sciences Board at UC Santa Cruz and brought it to international prominence. He was an extraordinarily kind and giving person in his encouragement and influence on the development of a large number of UCSC graduate and undergraduate students, researchers, faculty members, and colleagues who have, in turn, gone on to make their own contributions and impacts. Bob and Jan graciously opened their home and hearts and made a long stream of students and visitors feel welcome and appreciated.

Bob was born in Texas in 1932 during the Great Depression when many people, including his parents, were struggling because of the harsh economic conditions and lack of jobs. Searching for a brighter future, his family had migrated from Indiana to Texas because they had heard of jobs in the oil fields. His father did get a job working for the Texas Oil Company (Texaco) in Saudi Arabia, and after his return the entire family moved to San Francisco, when Bob was still a teenager. He enrolled at Stanford University and graduated in 1955 with a B.S., supporting himself by serving food in a campus dormitory.

It was in a field geology course to the Santa Lucias that Bob first was exposed to the sedimentary rocks of the Monterey Formation, which was to become the cornerstone of much of his subsequent research career. He stayed on and received a M.S. degree at Stanford in 1958, which was followed by a Fulbright Fellowship to study at the University of Innsbruck in Austria for a year, where he developed an interest in limestones. The year in Europe marked another important point in Bob's life when he met his lifelong partner, Jan.



Bob Garrison in Austria

After the Fulbright, he returned to the states and worked for two years for Sunray DX Oil Company in Wyoming, where he developed an appreciation of the commercial applications of geology.

From 1961-65 he studied for his Ph.D. at Princeton University under the mentorship of Alfred Fischer, returning for two years of fieldwork in the Austrian Alps and making seminal contributions to our understanding of the Jurassic pelagic limestones and radiolarites there. Bob and Jan were married in 1963. He spent a year at UC Santa Barbara as an assistant professor in 1965-66, moved north to join the faculty at the University of British Columbia from 1966 to 1968, and returned to California as an associate professor in the new Earth sciences program at UC Santa Cruz.

In 1966, Bob participated in geologic field training of Apollo astronauts in Oregon, including three who would later walk on the lunar surface. He sailed on numerous legs of the Deep Sea Drilling Project and Ocean Drilling Program, including the expedition that discovered that the entire Mediterranean Sea had dried up and became a vast desert about 5 million years ago!

Bob Garrison was an outstanding sedimentologist who made critical contributions to the discipline through his research, publications, influence on colleagues, and shaping of his many students. He fundamentally changed our understanding of the origin, distribution, and diagenesis of fine-grained marine sediments, most notably the siliceous, calcareous, and phosphatic rocks that typify the Monterey Formation. Garrison was a motivating force in bringing together American, Japanese, Korean and Russian geologists to synthesize their studies of Miocene Monterey-type facies on opposite sides of the Pacific Rim. He generated enormous international goodwill, cooperation, integration, and scientific progress with his tireless efforts to involve scientists from all institutions, regions, and countries in the understanding of the sedimentary deposits of the deep sea and continental shelves.

Throughout his career, Bob consistently addressed fundamental sedimentologic problems in fields that had previously been inadequately addressed because of the lack of appropriate methodology or due to being outside of popular trends in research. His scientific curiosity was guided by his concern for the human condition, and much of his research focused on the origin of the sedimentologic resources of energy and fertilizer necessary for our communal well-being.

Bob was also a superb and thoughtful teacher at all levels. He helped students develop a broad understanding of the world's geologic and cultural diversity by bringing his extensive international experience (and never-ending stream of visiting colleagues) into many classes, seminars, and field trips. He was committed to providing opportunities in academia to people who were outside of the traditional pathways, long before it was an explicit goal of the university.

Bob retired from UCSC in 1994, but continued to travel, carry out research, write, advise students, and organize conferences. His influence on an entire generation of students, collaborations with many national and international colleagues, generosity with his time, and modesty regarding his own accomplishments are hallmarks of Bob Garrison's life and career.



Bob Garrison standing to Rick Behl's left, at the Monterey field trip in Monterey, 2013.

NOW AVAILABLE

Anomalies

✚ Pioneering Women in Petroleum Geology: 1917-2017

To be released April 1, 2017, *Anomalies* represents a deep foraging into the unrealized and near lost history of women that began in 1917 their 100 year journey as petroleum geologists.

“Robbie Gries and her contributors have created a remarkable account of early women in petroleum geology. The book represents a “deep dive” into the lives, accomplishments, triumphs, and, even, terrors, of early women professionals. It displays impressive scholarship, and reflects four years’ efforts to source histories of these largely forgotten women professionals.

An astounding network of women professionals, formed by need, strengthened by time, constituting an amazing support system. Robbie has done an amazing, multi-year research effort in uncovering hundreds of early petroleum geologists, active in many countries, whose early efforts are now recorded for our belated appreciation.

A delightful, hopeful, sense of progress is conveyed by the book, as the intense survival stories of early women geologists, give way to a prideful modern acknowledgement of the importance of women petroleum geoscientists in our modern petroleum industry.

The book should be read by every petroleum geologist, geophysicist, and petroleum engineer; partly for the pleasure of the sprightly told adventures, partly for a sense of history, and, significantly, because it engenders a proper respect towards all women professionals, forging their unique way in a “man’s world”.

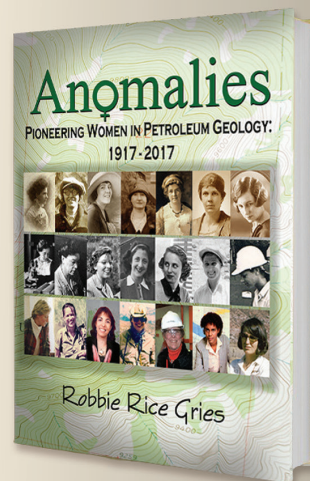
Buy this book! It will renew your pride in being a petroleum geologist, and it will enlighten you on the struggles of our wonderful women associates as they followed their professional dreams.”

– Marlan Downey, Past President of AAPG, CEO Roxanna Petroleum

“*Anomalies* celebrates the inspiring achievements of an intrepid group of pioneering women that have laid the groundwork for female geoscientists today. Robbie Gries provides an entertaining and informative narrative of 100 years of trailblazers that is enriched by excerpts from diaries, letters and interviews. The women in these pages were true scientific contributors and innovators at a time when women were just emerging into the growing field of petroleum geology. This is a must read for any historian of the oil patch, as it provides the only comprehensive record of the hidden history of these ground-breaking women.”

– Allyson Anderson Book,
Executive Director - American Geosciences Institute

Once released, the book can be ordered from the AAPG Store for \$50 plus shipping and handling. Please e-mail publications@AAPG.org expressing your interest and we will contact you as soon as the book is available. Don't want to wait? Visit the AAPG Center at the 2017 ACE meeting to purchase your copy.



Recent Activities of the AAPG Advisory Council

Daniel Schwartz

Pacific Section Advisory Council Representative

The Advisory Council met on Saturday November 6th via Zoom to discuss the various candidates for AAPG Executive Committee. The process was quite rigorous and thorough. The recommended candidates were forwarded to the Executive Committee for approval. The EC approved the slate of candidates and AAPG President Gretchen Gillis announced those individuals to the membership on December 1. Candidates for President Elect/President are Richard Ball and Claudia Hackbarth. Candidates for Vice President-Sections are Julian Chenin and Rebecca Dodge. Treasurer candidates are Juan Pablo Lovecchio and Ali Sloan. Editor candidates are John Breyer and Matt Pranter. All those elected will take office on July 1, 2022. The person elected president-elect will serve in that capacity for one year and then will be AAPG president for 2023–24. The terms for the vice president-Sections and Treasurer offices are 2022–24, and the term for Editor are 2022–25. Ballots and information on the candidates will be provided to the membership in March, 2022.

Regarding the AAPG-SPE New Org merger process there are several committees working to define the final proposal. Please check <https://www.aapg-spe-merger.org/> [aapg-spe-merger.org] for up-to-date information.

Rick Fritz, the chair of the AC has requested participation from AC members to address three long-range planning items to understand as we move forward whether or not the merger is forged. They are as follows:

1. Status of geoscientists and how they are viewed within the industry and the general public. If we merge we will need to understand how to convey our value to our fellow engineers. In any case, we need a better “value case” for geoscientists in the future. Denise Cox, chair.
2. Projection and prediction of the future of

petroleum and energy. For example, we tend to have major exploration jumps every 15-18 years. Is that a reasonable assumption for our petroleum future? What are the future economic drivers for other forms of energy. Mike Party, chair.

3. What is the future for geoscientists? How will our careers evolve? Where will the jobs come from? What kind of training will geoscientists need to prepare for the future? Rick Fritz, chair.

I have volunteered to participate on the third team.

If you have comments and constructive input, please let me know.



Seen by one of our members on a hiking trail in the Southern Sierra frequented by Glenn.

From the Bakersfield Californian, Nov 27, 2021:

Not just fracking: State slows almost all oil permitting

By John Cox

Behind California's de-facto fracking moratorium is a broader trend of growing concern to Kern's oil industry: fewer permits for every other type of well work except plugging and abandonments.

Gov. Gavin Newsom has resisted environmentalists' calls to halt all new drilling. But at the same time, his administration has introduced new levels of scrutiny among other changes that have restricted permitting at a time high oil prices have forced the Biden administration to open the Strategic Petroleum Reserve.

State and federal data show that in the two years after Newsom took office in January 2019, California saw a 19 percent drop to 1,796 in permits given annually for new drilling. Permits awarded each year for plugging and abandonment of wells actually jumped 11 percent to 3,001 during that period, while the number awarded for work on existing wells fell 37 percent to hit 1,550.

POLITICAL FOOTBALL

California oil permitting has followed politics since before Newsom became governor. Former Gov. Jerry Brown fired former State Oil and Gas Supervisor Elena Miller in 2011 after a fervent campaign by local executives and pressure by politicians including Rep. Kevin McCarthy, R-Bakersfield.

The main complaint against Miller then was the same as it is now against state regulators: Greater scrutiny and a lack of urgency on the state's part mean it takes longer for oil producers to get a permit that can sustain local jobs and support local tax revenues.

The head of Bakersfield-based oil producer Aera Energy LLC spotlighted the issue Nov. 10 during his keynote speech at this month's Kern County Energy Summit.

QUIET SLOWDOWN

President and CEO Erik Bartsch clicked to show a slide titled "California Permitting Slowdown." It charted big jumps in the number of days the state has taken in recent years to approve underground injection permits and well stimulation projects like fracking, the controversial well-finishing technique also known as hydraulic fracturing.

His point was that Newsom is quietly attacking California's oil supply.

"The phase-out is happening today with no public debate," said the head of Aera, whose state permit denials for frack jobs in western Kern are the subject of a lawsuit pending in Kern County Superior Court.

STATE RESPONSE

The state's primary oil regulator, when presented with industry summaries showing the permitting declines, pointed to the Newsom administration's reprioritization of public health and safety in oil field project reviews, and what it called the most rigorous oversight process in the country.

The California Geologic Energy Management Division pointed to several initiatives ensuring more thorough reviews of oil field operators' permit requests, as well as an in-depth review of the state's permitting process. It acknowledged that additional work has taken time.

It noted a recent audit of the state's permitting review process, CalGEM's introduction of federal scientific reviews of fracking project applications and new regulations on injection work. It also called attention to a moratorium the Newsom administration imposed on certain high-pressure steam injection jobs after a large oil leak near McKittrick.

COURT TWIST

A twist recently arose when a judge ruled against Kern's attempts to institute an over-the-counter permitting process for oil and gas operations. The ruling has, at least temporarily, returned CalGEM to being the lead agency in California environmental reviews of oil field projects.

The agency said in an email its staff will “rigorously review every permit request in accordance with the California Environmental Quality Act.”

“This action allows operators to move forward with more than 200 upcoming plugging operations to permanently seal old wells which are no longer in use,” CalGEM stated.

INDUSTRY VIEW

The CEO of the California Independent Petroleum Association trade group, Rock Zierman, said the state is fully empowered by the court to permit wells that have already gone through the county process prior to Oct. 6. But he said the agency insists on giving only conditional approval to new wells until the county's permitting case is resolved.

A spokesman for the Western States Petroleum Association trade group said the Newsom administration is making it difficult for oil producers to get the permits they need to produce affordable, reliable energy for the state. He questioned why it's happening at a time President Joe Biden is calling on Russia and OPEC to increase oil production to help lower global fuel prices.

Santa Clarita-based California Resources Corp., responding to questions about the pace of state oil permitting, voiced no complaints as it pursues conventional projects, not involving well stimulation, and “works constructively with state agencies to secure the permitting required to safely produce stable, affordable low-carbon fuel for Californians.”

CHEVRON'S COMMENTS

Chevron Corp., when asked the same questions, noted California produces just 30 percent of the oil it consumes and that, as an energy island, in-state production contributes to energy reliability and security.

The company said policies that restrict supply only shift energy production, along with high-paying jobs and tax revenue, to places with lower regulatory standards. It said it supports predictable, consistent permitting that promotes safe, responsible developing of oil and gas resources.

“We need permitting predictability and consistency to build and execute our business plans,” a Chevron spokesman wrote in an email.

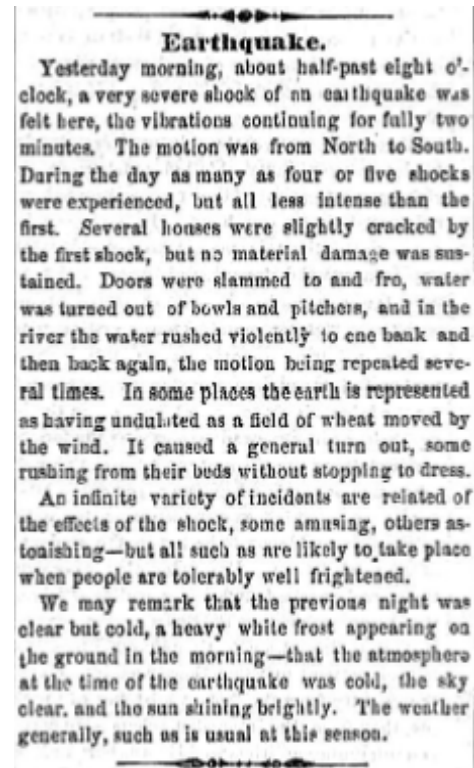
Unconventional Evidence of Geologic Activities, Los Angeles Basin

Scott Prior

President, Los Angeles Basin Geological Society

Evidence of Los Angeles area geology activity may occur in unconventional ways, and I would like to show two examples. The first example is a cover (envelope) mailed at Los Angeles on January 9, 1857. That morning the Ft. Tejon earthquake hit and it was felt as far south as San Diego. This is thought to be California's largest earthquake and Los Angeles suffered some damage to buildings and walls and experienced significant shaking. Note on the cover the "LOS ANGELES/CAL" circular date stamp with the "Jany 9" date added by postmaster James S. Waite. Waite also applied the "26" (cents) and "PAID" markings. Normally the month and day would have been in printed text within the cancelling device as the postmaster would insert the appropriate type into slots for this purpose. However, on this morning I bet his type was scattered all over the place and he found it expedient to just write in the date. In 1860 the population of Los Angeles was only 4,385 so in 1857 it may have been only about 4,000 persons. Waite would have been able to handle writing out the dates of this day's outgoing mail and then picked up and sorted his type.

This envelope took 51 days to reach its addressee in Gironde, France. From Los Angeles it was delivered to the January 20, bi-monthly steamer from San Francisco to Panama City, Panama (note sender's "Panama" directive on the cover in the upper right). It then crossed the Isthmus and was placed on another steamer to New York City. On Valentine's Day 1857 it went on a third steamer to Liverpool, England and then to Dover via London. It crossed the English Channel, went to Paris and was finally delivered to the addressee where he was charged 25 decimes for transit through England and France. The 26 cents paid at Los Angeles only took it to England.



Los Angeles Star, January 10, 1857, p2c2.



Envelope mailed at Los Angeles on January 9, 1857.



Envelope back.
London arrival
making in red.
Others are French
transit markings.

The second example is the only known cover from the short-lived Petrolipolis post office. In operation from April 1867 to December 1871, it was located at Lyon's Station in the San Fernando Valley (see map). The name was derived from the numerous tar seeps in the area and was used to advertise the area's petroleum potential in hopes of snagging investors. This April 30, 1870 cover was carried by Wells, Fargo stagecoach to the Navy yard at Mare Island.



1872 Asher & Adams map locating LA County post offices.



From Petrolipolis, April 30, 1870, sent to the Navy Yard at Mare Island. Note the manuscript cancel as this post office never had a canceling device.



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Call For Papers

Geology of the Sacramento Basin and Northern San Joaquin Basin

The PSAAPG is calling for new papers on the Sacramento and northern San Joaquin basins, to be published in compact disc format as volume 2 of our 2021 CD, *Advances in the Geology of the Sacramento and Northern San Joaquin Basins since PSAAPG Miscellaneous Publications 41 and 43*. Volume 2 will be dedicated to the late Alvin A. Almgren and honor his pioneering research on these basins, which has benefited and inspired scores of students and professionals for more than seven decades. We anticipate publication of volume 2 in the middle or later part of 2022.

Potential topics may include:

- Outcrop studies at the west and east basin margins
- Neogene geology and sequence stratigraphy
- Natural gas discoveries and development activities since 2000
- Reinterpretation of old fields
- Sequence stratigraphy of Upper Cretaceous section in the Sacramento Basin
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- Produced water injection and other regulatory activities

If you have a manuscript, or are able to prepare one by mid-2022, and are interested in publishing your work in this new volume, please contact Tony Reid (editor@psaapg.org) or Scott Hector (Scott.Hector@gmail.com).

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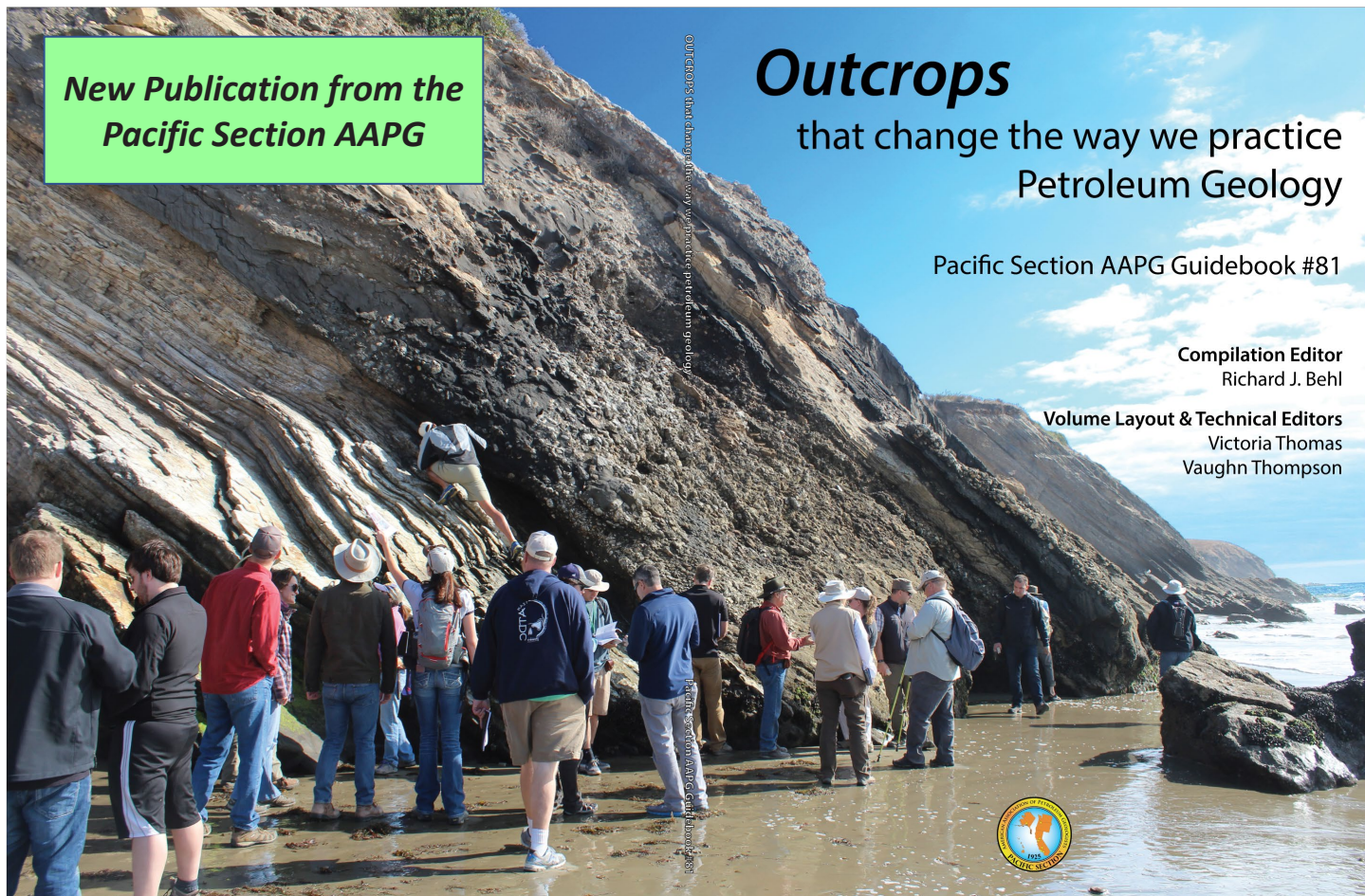
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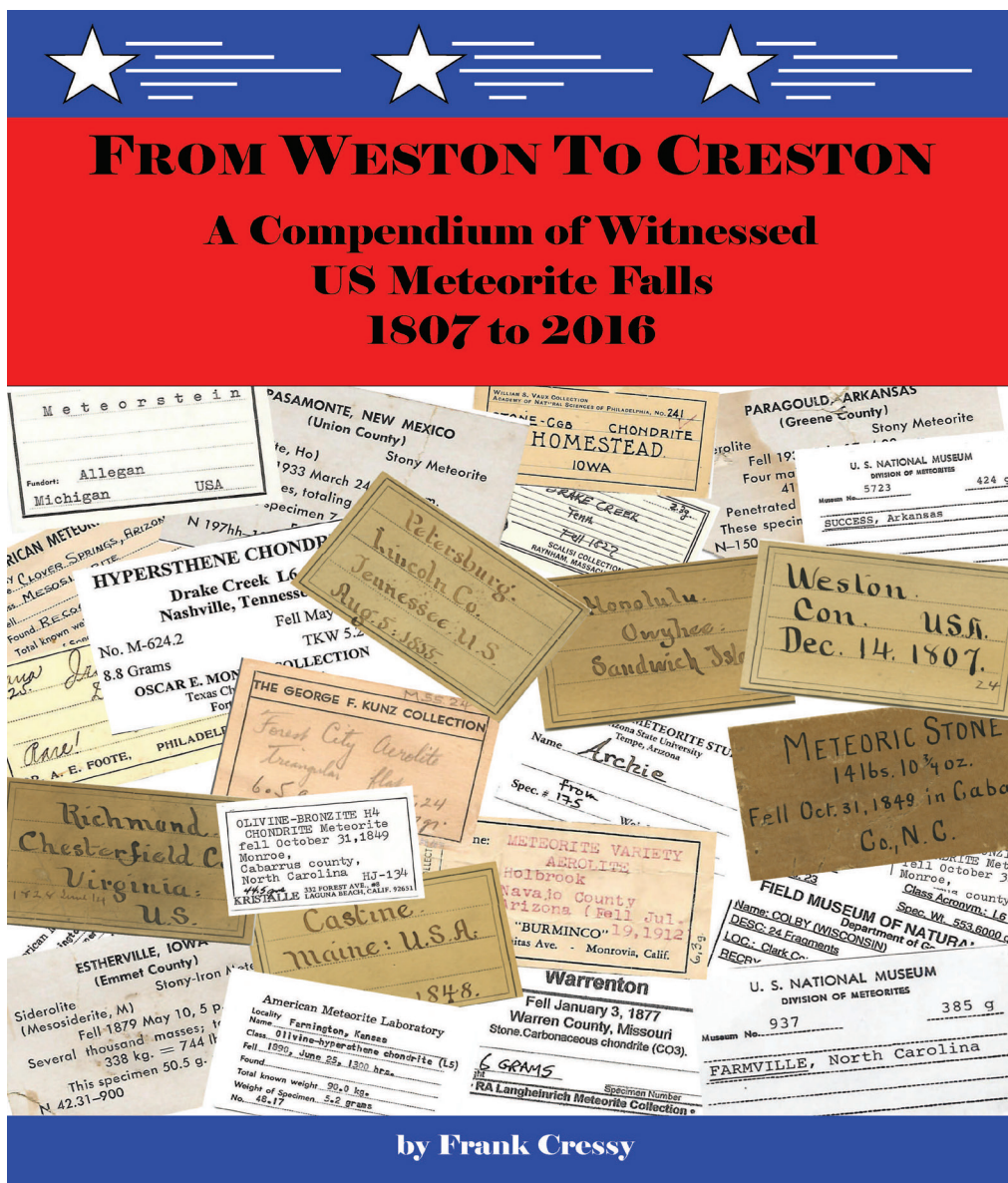
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"FROM WESTON TO CRESTON – A Compendium of Witnessed US Meteorite Falls – 1807 to 2016"

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Soft Cover books \$36.00; for ordering, contact: fcressy@prodigy.net



Lifetime Achievement Award to be presented to Dr. Raymond Sullivan at October 27, 2021 NCGS Meeting

At the October 27th Meeting, NCGS President, Noelle Schoellkopf, will present a Lifetime Achievement Award to Dr. Raymond Sullivan in recognition of his 30+ years of service to the Society. Dr. Sullivan has served as President, Program Chair, and Counselor for the NCGS. In addition, he has led numerous geologic field trips to the Black Diamond Mines Regional Preserve, Keller Canyon Landfill, Concord Naval Weapons Station, and sites in San Francisco.

More recently, Dr. Sullivan led the mammoth effort to produce the Geological Society of America Memoir titled “Regional Geology of Mount Diablo, California: Its Tectonic Evolution on the North America Plate Boundary,” edited by Raymond Sullivan, Doris Sloan, Jeffrey R. Unruh and David P. Schwartz. The Memoir, which commemorates the 75th anniversary of the NCGS, is a compilation of 17 new research papers, by 33 contributing authors, on the geology of Mount Diablo. Four of the papers were coauthored by Dr. Sullivan.



Ray Sullivan in Ireland. Photo courtesy of Greg Bartow.

Dr. Sullivan is Professor Emeritus in Geology at San Francisco State University. He earned his BSc (honors) at Sheffield University in 1957, and PhD in 1960 at the University of Glasgow. His first position was with Shell Oil of Canada. He joined the faculty of the Geology Department of San Francisco State University in 1962 and taught for 40 years in the department until his retirement in 2002. During his time at the University, he played a major role in the formation of the department and the development of the undergraduate and graduate Geology degree programs. He served as department chair and Associate Dean of Science and is a Fellow of the California Academy of Sciences. His publications include his research on the Lower Carboniferous of South Wales (his doctorate dissertation), Green River Shales of the Green River Basin, the Eocene rocks of the Sacramento Basin and the Mount Diablo area. He has also published several papers on environmental geology and earthquake awareness and coauthored 16 science school textbooks.

For more information about Dr. Sullivan, please refer to the excellent interview that the Bancroft Library Oral History Center at the University of California conducted with Dr. Sullivan in 2017 about growing up in Wales, his career, and his research on the Black Diamond Mines. https://digitalassets.lib.berkeley.edu/roho/ucb/text/sullivan_raymond_2019.pdf

Member Society News

Alaska Geological Society www.alaskageology.org

P. O. Box 101288
Anchorage, AK 99510

Virtual monthly meeting are held at 11:45 am.
Speaker and topic to be announced on the website

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Treasurer:	Corey Ramstad	cramstad@hilcorp.com
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Coast Geological Society www.coastgeologicalsociety.org

P. O. Box 3055
Ventura, CA 93006

In-person meeting may begin in January 2022. Check the website for details. Meetings are the third Tuesday of the month and start at 6 pm.

January 18, 2022- Lorraine Lisiecki, UCSB, Paleoclimate and Paleoceanography

February 15, 2022- TBD

March 15, 2022- Kathy Marsaglia, CSUN, IODP Expedition to the Guaymas Basin: 4 km core analysis

President:	Renee Richards	president@coastgeologicalsociety.org
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Los Angeles Basin Geological Society www.labgs.org

Virtual meetings continue at 12:00 noon the fourth Thursday of the month. Go to the LABGS web site for the link to join the meeting.

November and December: no talks due to the Holidays

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(Continued on next page)

Northern California Geological Society
www.ncgeolsoc.org

803 Orion #2
Hercules, CA 94547-1938

We are monitoring the COVID situation with the new Omicron variant. January 2022 is supposed to be our first hybrid meeting, but we may have to revert to online virtual only (yet again).

Virtual meetings held via ZOOM at 6:30 pm on the fourth Wednesday of the month.

January 26, 2022: Dr. Katie Stack Morgan, Jet Propulsion Laboratory, Update on Perseverance Mission to Mars

February 23, 2022: Dr. Joshua White, Lawrence Livermore Labs, Carbon Capture and Induced Seismicity

March 30, 2022: Dr. Nicholas Swanson-Hysell, UC Berkeley, Stratigraphic Studies and Paleomagnetism (Details TBD)

President:	Noelle Schoellkopf	NoellePrince @ sbcglobal.net
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Northwest Energy Association
www.nwenergy.us

P. O. Box 6679
Portland, OR 97228

Contact:
Jim Jackson or John Armentrout

No activities are planned at this time. Check the website for the latest information.

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Sacramento Petroleum Association

P. O. Box 1844
Folsom, CA 95630

Contact: Pam Ceccarelli
916-439-0400

As of October 2021, in-person meeting have resumed at the Club Pheasant in West Sacramento. Meetings are held at noon on the third Wednesday of the month.

President:	Jerry Reedy	JWR5532@aol.com
Vice-President:	Scott Hector	Scott.Hector@gmail.com
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Editor/Treasurer	Pam Ceccarelli	pc626@comcast.net

(Continued on next page)

San Joaquin Geological Society
www.sanjoaquingeologicalsociety.org

P. O. Box 1056
Bakersfield, CA 93302

Contact: Mark Korte-Nahabedian
marknahabedian@gmail.com

In person monthly meeting have resumed. Meetings are on the second Tuesday of the month at 6:30 pm at the American Legion Hall, 2020 H Street, Bakersfield.
Check the web site for the next meeting details.

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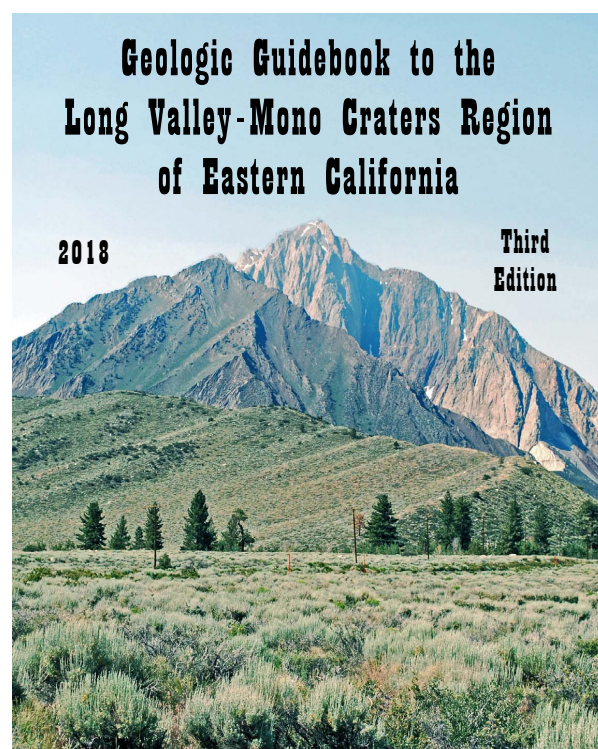
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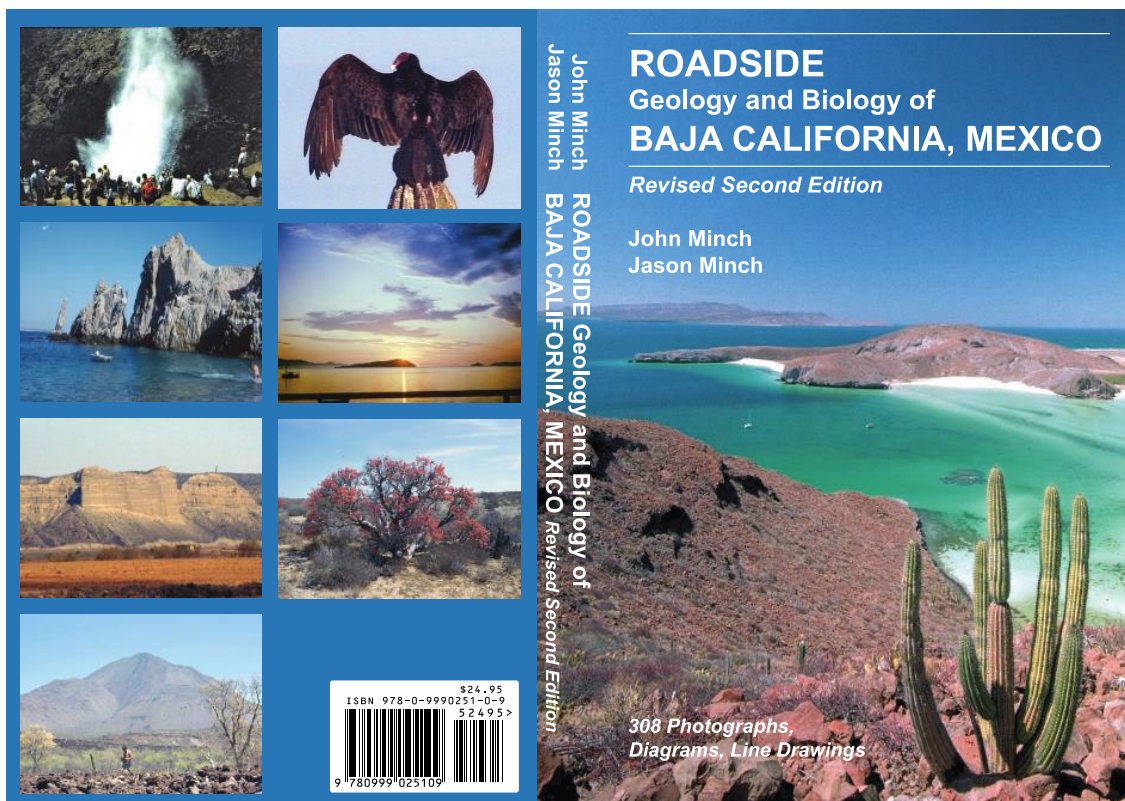


Geological Society of Nevada

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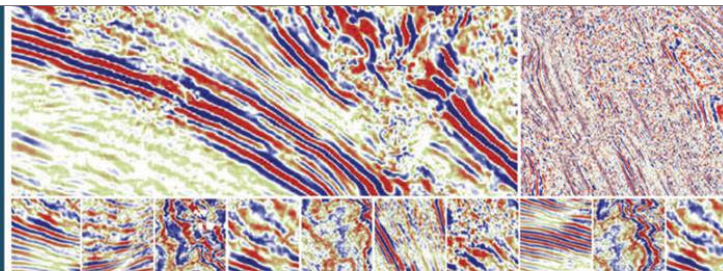
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