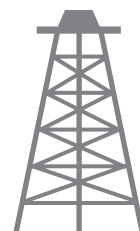




Pacific Petroleum Geology

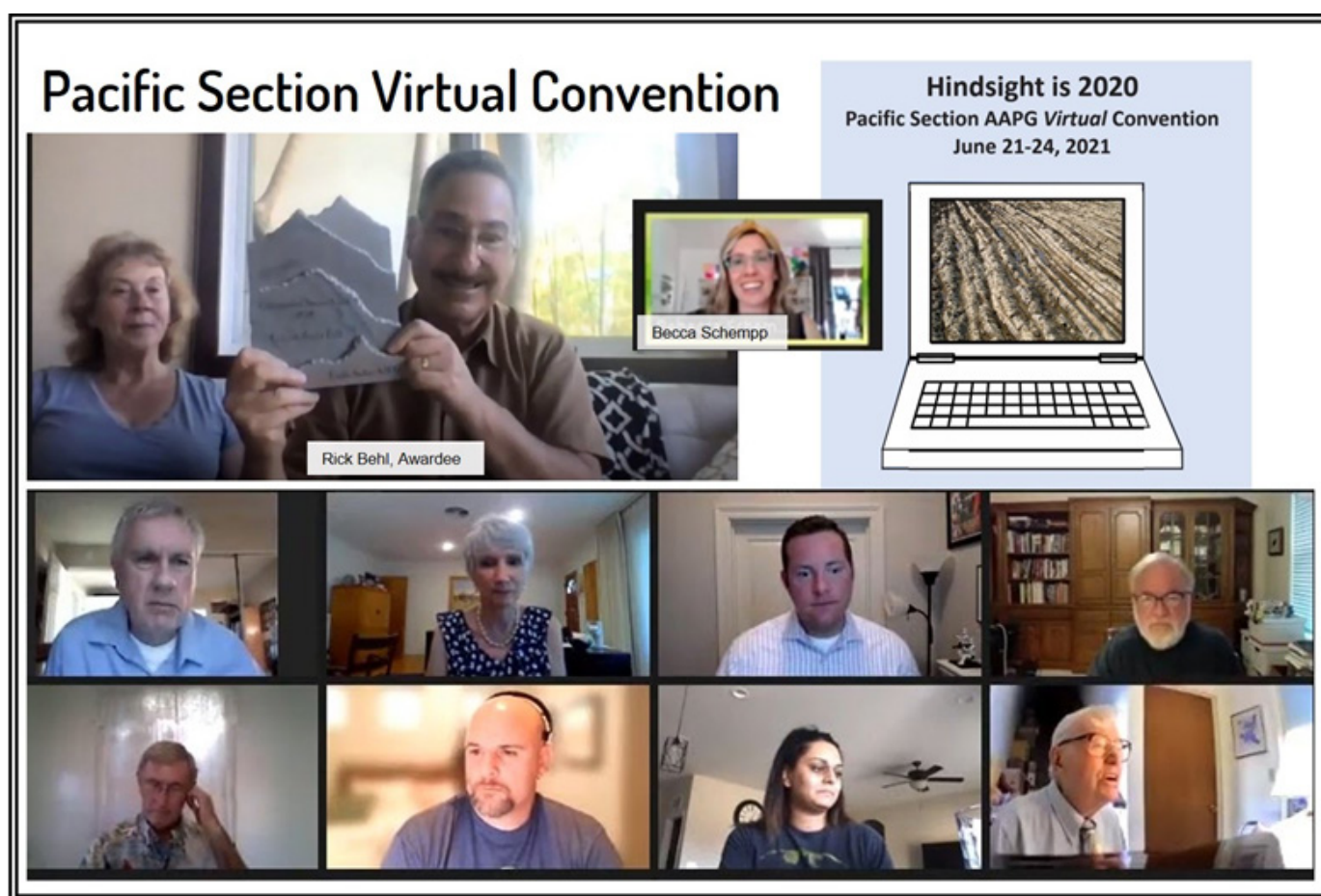


NEWSLETTER

Pacific Section • American Association of Petroleum Geologists

July and August 2021

Pacific Section AAPG Virtual Convention Review



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New PSAAPG Officers for 2021-2022

William Rintoul “one of the West’s most unusual writers”

Descriptions of Key San Joaquin Basin Wells by Bill Rintoul



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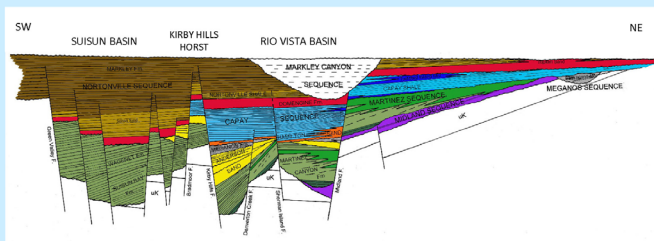
Available by direct download from the
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Volume 1



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Cover: Screen shots from the PSAAPG Virtual Meeting, June 21-24, from the AAPG Explorer article by Linda Sternbach. Also, this edition contains two articles honoring Bill Rintoul on the 20th anniversary of his death.

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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Hello Pacific Section Geoscientists,

This is my last President's Message as I happily and confidently pass the gavel on to Vaughn Thompson. I've known Vaughn for many years and am very excited to see him lead our group. He has great ideas and plans to keep our organization moving and improving.



The "President" term is three years; President-Elect, President, and Past-President. COVID threw a bit of a twist to the term and added an extra year as President for me. I am very grateful for the time in the position. We had to make some difficult decisions, but I am confident we made the right tough calls. I am happy and proud in the ability of our local societies to embrace change and adapt to new technologies and a way of doing business. I would like to thank our Executive Committee for all their time, patience, and hard work over the past few years. Wanjiru Wilder, thank you for stepping into the Secretary position without missing a beat. Your familiarity with the group, processes, and organization has made my load incredibly lighter. Lisa Alpert and Simmie Chehal, you two are the backbone of this organization. We'd truly be lost without you both, please never leave us and please keep saying yes! Larry Knauer, thank you for keeping tabs on everyone. Thank you for monitoring our mailbox, keeping the Core Repository going, and for managing the publications. Tony Reid, thank you for all your time and work on our newsletters. I apologize for always blowing right past your deadlines. Thank you for maintaining such a high-quality newsletter for our members. Cynthia Huggins, thank you for managing our IBA and scholarship programs. The students are incredibly fortunate to have you as an advocate. Cole Heap, thank you for all your outreach to our colleges and universities, especially during such a tumultuous time. Mark Wilson, thank you for keeping the Foundation going and for always asking for monies! Mike Clarke, thank you for keeping our website up and running! Bob Lindblom, thank you for all your help with Honors and Awards, I loved our virtual awards ceremony this year. Anne Draucker, thank you for representing PSAAPG for AC, even after relocating to Houston. Karla Tucker, thank you for managing our TOTY program and for representing PSAAPG on the National committee as well. Rick Behl, thank you for all your guidance and leadership over the many years and for always saying "yes" to PSAAPG.

This was exemplified in our 2021 Virtual Meeting. I am so proud of our group for putting such an exciting meeting. We were able to use some of the talks from the 2020 meeting, but also put together several new sessions and a field trip. It was wonderful to be able to interact with friends from beyond CA. I'd like to thank our Convention Committee for burning the midnight oil with me to put the convention on.

Lisa Alpert, Rick Behl, Simmie Chehal, Plamen Ganev, Larry Knauer, Bob Lindblom, Jenny Prosser, Tony Reid, Johnathan Rice, and Renee Richards – you are all such gems. Thank you for your patience and dedication to putting on a great meeting.

I am excited to continue to be a part of such a wonderful organization. Even as we face more changes and challenges, I am confident that we'll make it through.

Thank you all for sharing your time with me.

Becca Schempp
Past-President – Pacific Section AAPG

Election Results and New Officers for 2021-2022

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Vaughn Thompson
Chief Geologist, Carbon California Co

President-Elect



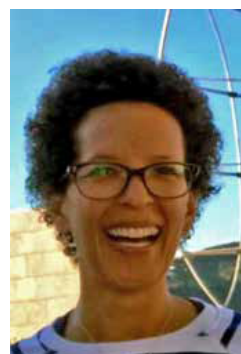
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**New Publication from the
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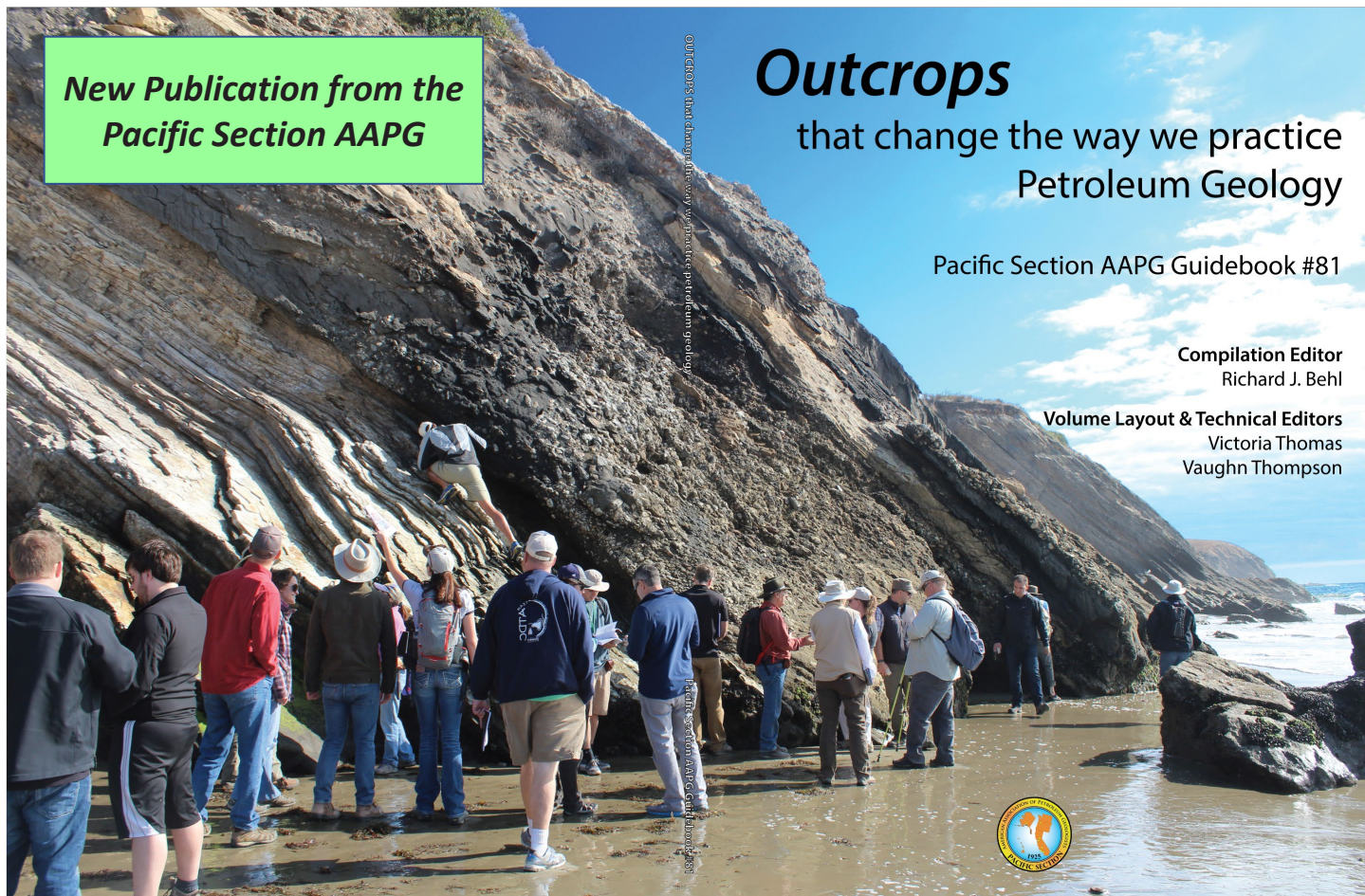
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SANDE OIL FIELD GEOLOGY

Reprinted from the August 2021 Edition of the AAPG Explorer

Pacific Section Conference Soars with Virtual Field Trip to the Monterey Formation

By Linda Sternbach, AAPG Vice President Sections



Zoom montage from the Pacific Section conference June 21-24

AAPG Pacific Section thrilled attendees with a stunning interactive Google Earth-based virtual field trip. That was only the start of the multiday technical program that was both innovative and technically enriching.

Imagine being able to experience the stunning and intricate layered geology of the Monterey Formation through a Google Earth high-resolution, interactive program. Dr. Richard Behl, geology professor at California State University at Long Beach, likes to take geologists into the field, walking through the cool surf and sunny climate. At the Pacific Section virtual conference, June 21-24, Behl offered up what he described as a "Monterey Formation Bucket List" of beach outcrop stops traversing more than 500 miles along the California coast from Crystal Cove and up to "Bowling Ball Beach" near Point Arena.

Pacific Section President Becca Schempp and the PSAAPG conference team arranged the virtual conference so the 20-plus technical talks were spread out over the week of June 21-24, with plenty of time for attendees to enjoy virtual networking, happy hours, and online chat. "The past year has been a challenge and anything but normal. We hope to return a smidge of normalcy to you," said Becca Schempp in her opening comments. "The PSAAPG committee worked diligently to provide a great technical program and field trip that you can enjoy from the comfort of your home or office. The multiday format let attendees tune in for a few hours a day while still tending to their daily duties."

The other creators of the PSAAPG 2021 program include Section President-Elect Vaughn Thompson, Lisa Alpert, Rick Behl, Simmie Chehal, Plamen Ganev, Bob Lindblom, Jenny Prosser, Johnathan Rice, Renee Richards, Larry Knauer, and Tony Reid.

Featured topics included geological studies of the Long Beach Oil Field, Belridge Oil Field area, an introduction to machine learning, bed level chemostratigraphy, and a comprehensive regulatory and environmental session addressing the dangers of methane and carbon dioxide emissions.

AAPG Secretary Jonathan Allen, featured speaker, commented, “I can say that the San Joaquin Geological Society and the Pacific Section community has definitely been one of the tightest and friendliest professional groups that I've had the pleasure of being part of. I think that the connections and friendships that I established in my nine years in Bakersfield have been both lasting and meaningful.”

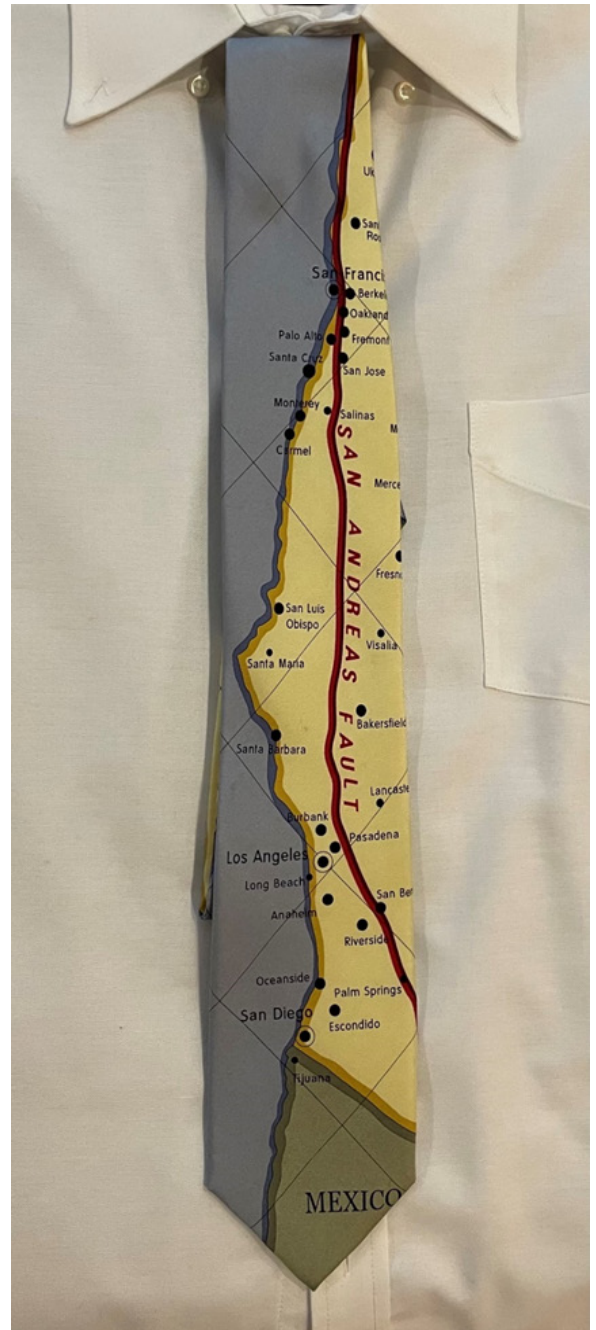
The Pacific Section Awards was remarkably upbeat and light-hearted. Robert Lindblom, a long-time AAPG and Pacific Section organizer, made people laugh by bringing up his famous California San Andreas necktie. Lindblom said, “Here I am looking at myself on the zoom screen putting on my favorite tie, which was noticed by my fellow geologists. This is my San Andreas necktie, and it shows the San Andreas Fault running 600 miles along Southern California. When I wear it people come up, and look at it, and then tell me they didn't realize that they lived so close to the San Andreas Fault.” (see image)

PSAAPG Distinguished Service Awardees included Dr. Richard Behl and Lisa Alpert. Tim Elam and Laura M. Bazeley accepted Honorary Life membership in the Pacific Section. Simmie Chehal and Renee Richards accepted the Young Professional Distinguished Service Awards, and Todd Greene accepted the Distinguished Lecturer Award.

Becca Schemp looked back at the end of the week long program saying, “I think the geological community needed to get back together after 2020. It was so nice to see people’s faces and hear from all of the attendees during the end of the program. We unmuted everyone and it was only somewhat chaotic!”



Bob Lindblom on Zoom during the awards ceremony



Bob Lindblom's famous San Andreas fault tie

Awards Presented at the Virtual Meeting of the Pacific Section American Association of Petroleum Geologists

June 23, 2021

Committee on Honors and Awards

The purpose of the Committee on Honors and Awards (CH&A) as listed in the ByLaws, Article 2, Section 9 of the Pacific Section AAPG states:

“The primary function of the Committee on Honors and Awards shall be to recommend to the Executive Committee recipients for all honors and awards. All recommendations for these honors and awards by Section members or other Section committees shall first be considered by this Committee before being presented to the Executive Committee for approval. Following Executive Committee approval, the awards will be presented at the Annual Meeting of the Section.”

Committee Members

Bob Lindblom, Chair, Northern CA, AK

Jack H. West, San Joaquin Valley CA

Robert C. Countryman, San Joaquin Valley CA

John Williams, Coastal Area CA

Don Clarke, Southern CA

"It is with Sadness that the H&A Committee lost one of its Members with the death of Tom Hopps on April 24, 2020. Tom was the Committee Member representing the coastal Ventura area and had been a Charter Member of the Committee since its reorganization in 2009. His dedication to the H&A Committee is of special note. Tom's knowledge and familiarity of Pacific Section Members were so important in finding qualified nominees that fulfilled the basis and definition for a nominee to be considered the recipient of a specific Award. His ever present smile, his always presence at Committee meetings and his propitious comments will be missed." - Bob Lindblom, Committee Chair

H. Victor Church Memorial Award

The winner of the Best Poster presented at the Pacific Section AAPG Annual Meeting in Long Beach, CA, April 1-3, 2019 is **Megan R. Mortimer-Lamb**, California State University Long Beach. The Poster is entitled “**Quantitative Compositional Characterization of the Biosiliceous Miocene Lark Formation, Danish North Sea and Norwegian Margin.**” The co-author of the poster is Richard J. Behl, California State University Long Beach.

A. I. Levorsen Memorial Award

The winner of the Best Oral Presentation of a Paper given at the Pacific Section AAPG Annual Meeting in Long Beach, CA, April 1-3, 2019 is **Lisa Alpert, PhD**, Aera Energy LLC, Bakersfield, CA. The paper is entitled “**Mantle structure beneath the Alboran Sea from shear wave splitting.**” The co-authors of the paper are Thorsten Becker, Jackson School of Geosciences, University of Texas, Austin, Meghan S Miller, Research School of Earth Sciences, Australian National University, and Amir Allam, University of Utah, Department of Geology & Geophysics.

Young Professional Distinguished Service Award

The YP Distinguished Service Award was defined and proposed by the Section’s Executive Committee in 2014. It was first presented at the Section’s Annual Meeting in Oxnard, CA in 2015. The award is bestowed upon practicing petroleum geologists who are under 35 years of age or who have been employed as a petroleum geologist for less than 10 years. The Honoree has volunteered and demonstrated excellence, enthusiastic participation, organization creativity, leadership and passion for the geological sciences.

This year the Section honors:



Renee Richards



Simarjit (Simmie) Chehal

Distinguished Service Award

The Distinguished Service Award was defined and proposed by the Section's Executive Committee and passed by the membership in 2002. It was first presented at the Section's annual meeting in Long Beach in 2003. The award is bestowed upon members "in recognition of singular and beneficial long-term service to the Section and or affiliated Societies. The term singular does not necessarily mean without precedent, But rather the activity is specific as distinguished from general service."

This year the Section honors:



Distinguished Educator Award

The Distinguished Educator Award is given by Pacific Section in recognition of distinguished and outstanding contributions to geological education and counseling of students.

This year the Section honors:



Todd Greene

continued next page

Honorary Life Membership

Honorary Life Membership is Pacific Section's highest honor. It is bestowed upon members who have distinguished themselves by their contributions and devotion to the science and profession of petroleum geology and by outstanding service to the Pacific Section.

This year the Section honors:



Tim Elam



Laura M. Bazeley

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”.

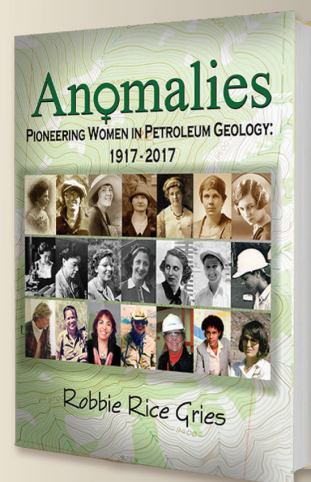
Buy this book! It will renew your pride in being a petroleum geologist, and it will enlighten you on the struggles of our wonderful women associates as they followed their professional dreams.”

– 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.



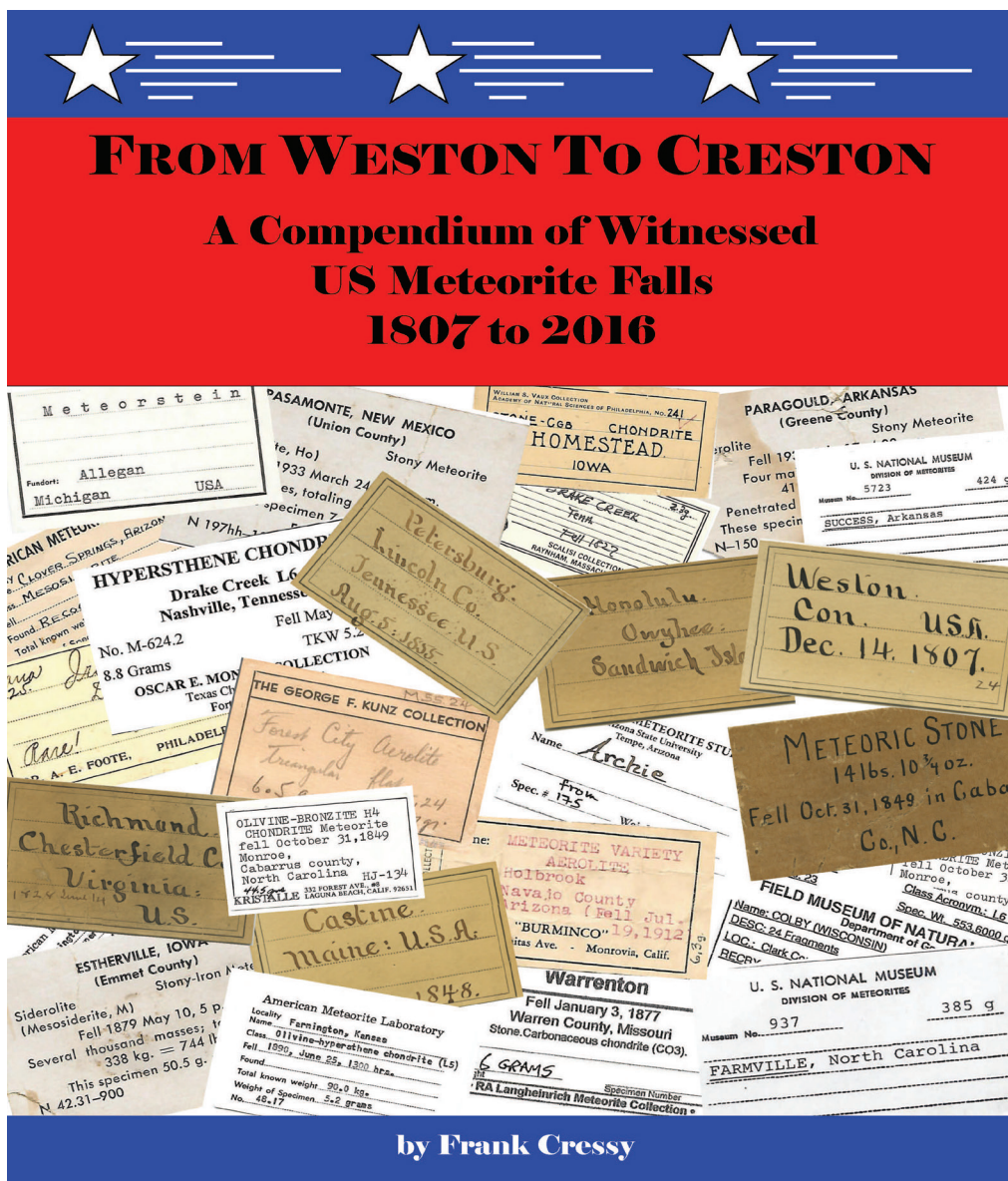
New Publication

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

by Frank Cressy

The violent display of blazing light and explosive sounds ending with meteorites crashing to the ground is an unforgettable event to those who witness it firsthand. This book summarizes the fall histories of nearly 170 witnessed meteorite falls that have occurred in the United States since the first documented fall at Weston, Connecticut in 1807. It is written not only for the collector of these rare objects, but also for those interested in the history and the growth of the branch of science known as Meteoritics. The accounts of the fall phenomena and recoveries associated with these extraordinary events are the focus of the book. However, the book is more. The reader will learn about those individuals responsible for the growth of the science and their contributions, together with interesting facts and coincidences about these visitors from space; 257 pages with over 300 color photos plus maps, figures and illustrations.

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



William Rintoul: The Encyclopedia of California Oil History By Rasoul Sorkhabi

Editor's note: It's hard to believe now that there was so much oilfield activity in the second half of the 20th century that Bill was able to fill a daily column in the *Bakersfield Californian*. It was always exciting to see one of your wells mentioned in his articles.

The Los Angeles Times once called William Rintoul “one of the West’s most unusual writers.” Oil field journalists are indeed rare and are becoming even rarer. Nevertheless, their contributions are not to be ignored. Petroleum history is a chronicle of the largest industry that has shaped the modern world for the past 150 years or so. Lighting, heating, transportation (on land, on the sea and in the air), rocket propulsion, petrochemicals and medicines are all gifts of this black gold. There have been many authors of the history of the oil and gas industry, but William Rintoul, who died 20 years ago next month, on June 26, 2001, was different. He crystallized in his lifelong work the very history of the oil and gas industry in California. For five untiring decades, he wrote thousands of articles on this subject.

It is impossible to decouple California’s petroleum history from Rintoul’s legacy.

A Kern County Patriot

The third and youngest son of his family, William Thomas Rintoul was born on April 30, 1922 in Taft, Calif. His father, Henry Ward Beecher “Pete” Rintoul, was born in Canada in 1887, but grew up in San Francisco, and graduated in civil engineering from the University of California in Berkeley in 1911. Beecher Rintoul first worked for the Southern Pacific Railroad and then for the Western Water Company (largely associated with oil fields), becoming the company’s general manager in 1940. He married Deane Gertrude O’Connor in 1917 when they both worked for the Southern Pacific Railroad. They raised three sons: Henry Ward Beecher, Jr., John David and William. Both the younger Beecher and John David graduated in mechanical engineering from UC Berkeley. Beecher worked for the Southern Pacific Railroad, and John David for the Standard Oil Company.

The city of Taft (named after U.S. President William Taft) is located in the foothills of the San Joaquin Valley, in Kern County, Calif. Bakersfield, another oil town in Kern County where Rintoul spent most of his life, is only 32 miles east of Taft. This setting in the midst of prolific oil fields had a lifelong pull on Rintoul’s life. While a teenager, Rintoul became interested in boxing and wrote articles on famous boxers for magazines in the United States, Canada and Europe. One of these heavyweight boxers, Max Baer from Chicago, who promoted himself as “The Man Who Beat Joe Louis” after having done so in the Golden Gloves finals in Boston in 1933, was a book lover and sent Rintoul a list of his favorite novels. Consequently, Rintoul became a voracious reader: he read Sinclair Lewis, Upton Sinclair, Zane Grey, John Steinbeck and other renowned novelists. While a senior in high school, Rintoul also worked in oil fields near Taft on some weekends.

When John Steinbeck’s “The Grapes of Wrath” was published in 1939 (the year Rintoul finished high school), the book was banned (and burned) for a while in California, but Rintoul was proud to say that he had already read it. In this novel, Kern County is depicted as the final destination for the Joad family’s arduous migration during the Great Depression. The Joad family represented the plight of many people from Texas, Oklahoma and Arkansas who went to the Golden State in search of jobs.

In 1940, Rintoul went to UC Berkeley to study journalism. After graduation in 1943, he joined the U.S. Army and served in the 89th Infantry Division in Europe, later earning a Bronze Star. In 1946, Rintoul returned to Taft, then took a year to travel in Mexico and Central America. During Christmas of 1947, he returned again to Taft, where he met Frankie Jo Miller. They married on June 19, 1948. For a while, Rintoul worked as a roustabout for Standard Oil, but his passion lay in writing. Using the G.I. Bill program for the returning World War II veterans, Rintoul returned to school and obtained a master's in journalism from Stanford in 1949. He soon began working for The Bakersfield Californian as a stringer in Delano, Calif., where his daughter Susan was born. Rintoul's early assignments were to report on anything making news – fires, crimes, weddings, etc. But when the Californian decided to launch an oil column, Rintoul was picked as their writer.

In 1950, Rintoul moved his family to Bakersfield where their son James was born a year later. Based in his home office on 2721 Beech Street, Rintoul continued his freelance writing for the Californian and numerous other periodicals for the rest of his life.

Rintoul was proud to be from Taft and Kern County. He was Taft's Oildorado Grand Marshal in 1980. (In 2020, Taft's 10-day party and parade, Oildorado, celebrated the 110th anniversary of the city.) James Houston, author of "Californians: Searching for the Golden State," in which Rintoul was featured, called Rintoul "a Kern County patriot" and "a living encyclopedia of petroleum lore." During the second oil shock of 1979-80, Rintoul was proud to say that Kern County was the fourth largest oil producing area in the United States.

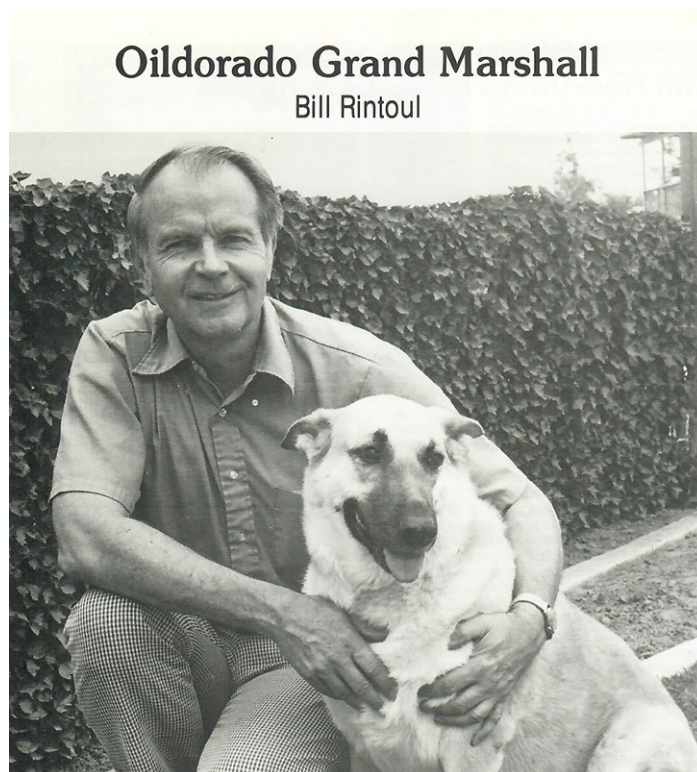


A journalist's working instruments are simple: pens and notebooks, a camera and a typewriter. Rintoul got his first typewriter in 1937; then his wife gave him a Royal Standard typewriter in 1955, which he used for 35 years, thus having written all of his books on this manual typewriter. In 1990, his son Jim bought him an Apple Mac, which he used right away and loved, even though he sometimes missed the clicking sounds of his loyal manual typewriter. Photos taken in 1958 and 1990, courtesy of James Rintoul.

Chronicles of California's Oil

Rintoul was a six-day-a-week "Oilfields" columnist for The Bakersfield Californian; he wrote this popular column for 51 years, from 1949 until his retirement in May 2000. For more than a decade, Rintoul was also a regular contributor to The Los Angeles Times, San Francisco Chronicle, The Sacramento Bee, the Tulsa World and Pacific Oil World, and often wrote for magazines such as Petroleum Week, Drilling Contractor, Well Servicing Magazine, Oil & Gas Investor, Oil & Gas Journal, Offshore Magazine, Westways, California Business, California Crossroads, Sports Illustrated, Popular Mechanics, Nation, and so forth.

From 1976-81, Rintoul published three illustrated books that are indispensable to any student of California's oil history: "Spudding In: Recollection of Pioneer Days in the California Oil Fields," published by the California Historical Society in 1976; "Oildorado: Boom Times on the West Side," published by Western Tanager Press in 1979; and "Drilling Ahead: Tapping California's Richest Oil Fields," published by Western Tanager Press in 1981. Reading through these and his other writings, one finds a continuous thread in his craft: oil is humanized. Rather than simply writing about rigs, drill bits and gushers in a dull and dry language, Rintoul focused on



Left: Bill Rintoul on the cover page of Bakersfield Lifestyle Magazine in April 1986 with a long interview featured in the magazine. Recall that 1986 witnessed one of the worst oil market crashes in history. To the question about the future of the oil industry, Rintoul answered, "I think that the oil industry is going to be here for a long, long time." Why? "Because it is our number one energy source." Right: Rintoul with his dog Woofie. This photo was included in the Taft Oildorado 1980 brochure, when Rintoul participated as Oildorado Grand Marshall in the parade. Rintoul loved animals, and his daughter Susan remembers how one day Rintoul brought home a stray cat who gave birth to five kittens, all of which the family kept and cared for.

people – their lives, dreams, struggles, pains and joy. For instance, after narrating the 1899 discovery of the Kern River oil field in California, Rintoul concludes with this line from "Spudding In": "Hundreds of men came from all over the West to see the Elwood discovery well. At one time a picture was taken of two hundred men in the lobby of Bakersfield's Southern Hotel. An agent for the Southern Pacific bought oil from the Elwoods for use in the line's locomotives."

This humanization of the oil industry is also evident in the photographs Rintoul included in his books. The vast majority are pictures of ordinary men walking or working in oil fields. Rintoul often described oilfield work as hard, dirty and dangerous, and appreciated the work of these men.

Rintoul also captured the dynamics of life in oil towns and oil fields of California in short stories published in more than a dozen magazines. Some of these were collected in two books: "Rig Nine" and "Roustabout," published respectively in 1983 and 1986 by a small press, Seven Buffaloes, in Montana. Two of the stories in "Roustabout" were translated into Russian and included in an anthology of American writers entitled, "I Believe in Humanity," published in Moscow in 1986. The book's Russian editor noted that Steinbeck would have written like Rintoul, had he written about oil fields. In 2011, 10 years after Rintoul's death, his children, Susan and James, published "The Collected Stories of William Rintoul" in a hardcover volume; it contains 45 short stories.

Rintoul's last book was a "big history." He was commissioned to write the history of California's Division of Oil and Gas for its 75th anniversary. Rintoul used it as an opportunity to write a succinct chronicle of California's oil. The result was "Drilling Through Time," a profusely illustrated "coffee-table" book published



Cover pages of Rintoul's six books, all of which he dedicated to family members or colleagues.

in 1990. Rintoul ends his book with the hope that many of the wells “would still be making contributions to California’s oil production on into the next century.” Now in that next century, the petroleum industry is facing many economic, environmental, and technological challenges, and historical perspectives like the one Rintoul documented will offer some aid with these challenges.

Although Rintoul largely focused on Kern County’s oil industry, his freelance journalism took him to many other places both in the United States, such as Colorado, New Mexico, Texas, the Gulf of Mexico and Alaska, and overseas, such as Scotland and Saudi Arabia, among others.

Rintoul was also a sought-after speaker, and he gave more than 150 speeches. As for the topics, “the standing family joke,” recalls his daughter Susan, “was that his topic was always: ‘the changing oil scene.’” She also remembers her father in these words: “We never went out to dinner without people in the oil industry buttonholing my dad to ask about what was happening in the oil fields. He always knew.”

Irreplaceable Legacy

In an interview with the renowned writer Gerald Haslam (also from Kern County), Rintoul expressed his feelings about his profession as freelance journalist: “The advantage of working as I have worked is, I’m my own boss. The disadvantage is a total lack of security.” Nonetheless, he worked hard, made a successful career, and supported his family – a life lesson to the members of any generation who may be thinking that life is hard only to them.

Aside from journalism, Rintoul also taught classes in writing at Fresno State University and Bakersfield Junior College. He was an active and a lifetime member of the Kern Press Club, the Petroleum Club of Taft, the San Joaquin Chapter of the American Petroleum Institute and the Petroleum Production Pioneers. For his contributions to petroleum journalism and historiography, Rintoul received a number of awards, including the Pacific Section AAPG Journalism Award in 1986, the Oil Baron Award from the American Petroleum Institute's San Joaquin Valley Chapter in 1989, AAPG's Journalism Award in 1990 (presented to him during AAPG's annual convention in San Francisco), the Lifetime Achievement Award from the Independent Oil Producers' Agency in Bakersfield in 1995 and the Lifetime Achievement Award from the California Independent Petroleum Association in 1996.

Rintoul died in 2001 at age 79, after a year and a half-long battle with Alzheimer's disease. Newspapers in California, including The Los Angeles Times, Bakersfield Californian and Daily Midway Driller, all published his obituary. Many "letters to the editor" from readers, well-wishers and colleagues honored his life and contributions. One person remarked that Bill Rintoul was irreplaceable. Indeed, since his death, no journalist has filled his shoes. Rintoul is a Kern County and California legend.

Acknowledgements: I express my gratitude to Susan Parker Rintoul and James Rintoul for sharing their time and information sources and documents on the life and career of their beloved father.



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ANOTHER CONTRIBUTION FROM BILL RINTOUL

Edited by William R. Berry II (Rick) and Deborah M. Olson

The May 2021 on-line edition of the AAPG Explorer carried an article (Rasoul Sorkhabi) honoring Bill Rintoul and citing the many literary contributions that he has made to the California oil industry. There is probably no one who has worked in the California oil patch in the last half century that has not read some or all of his books and many of his countless articles in the Bakersfield Californian. We wish to make an additional contribution in honor of Bill's remarkable career.

In the early 1990's the California oil patch was going through yet another of many downturns. Like earthquakes, they are something you get used to. Unfortunately, that downturn was causing many companies to at least consider pulling out of California. Both of us had worked for major oil companies earlier in our careers but were then providing consulting services through our first company, Digital Petrophysics, Inc. (DPI). DPI had, since 1984, conducted extensive petrophysical and geological studies for most of the majors and larger independents. To us, it looked like many companies were headed for the doors long before the party was over.

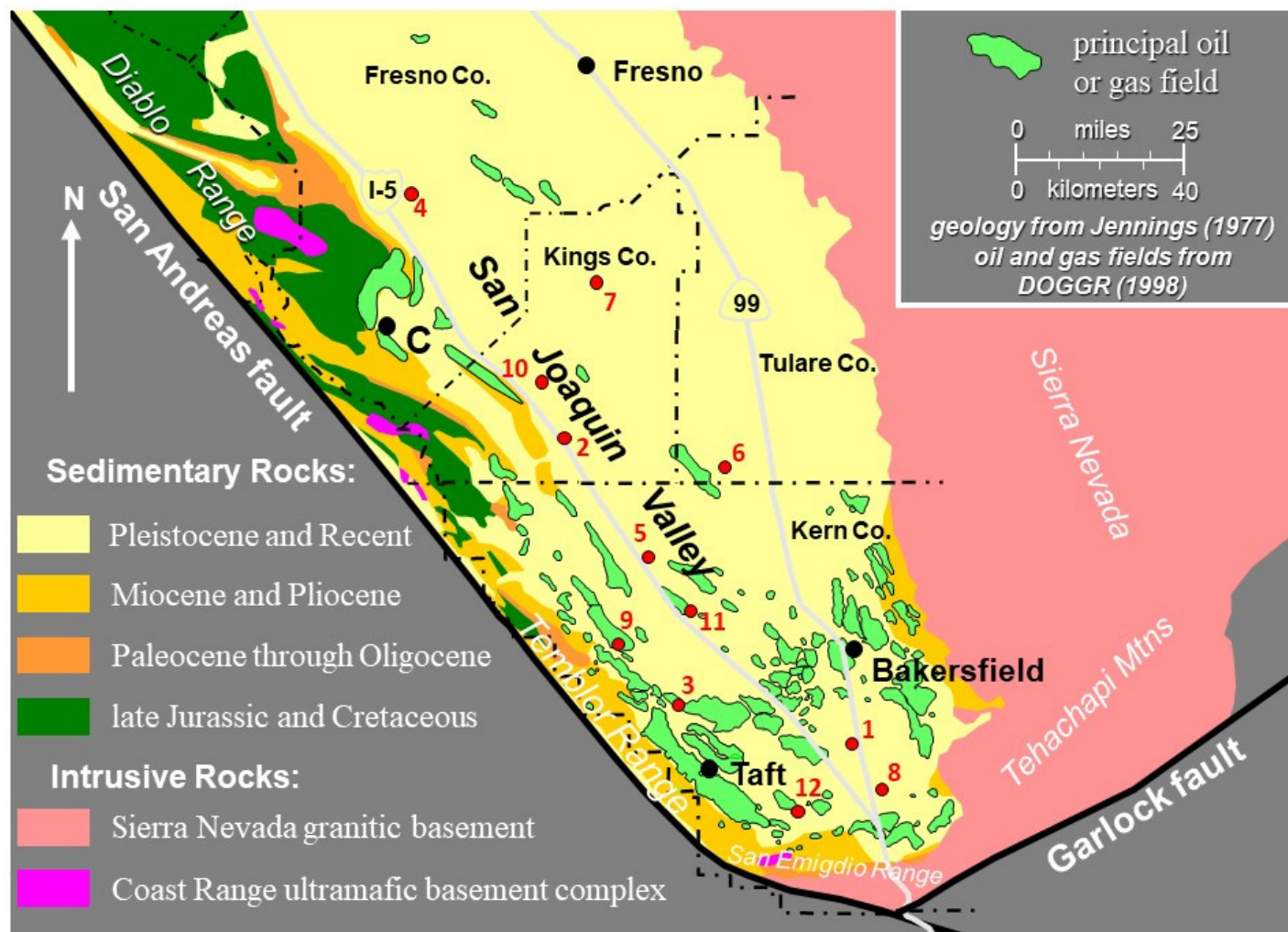
As of that time, there had been only limited efforts to drill for deeper pay in the southern San Joaquin Valley. There was a prevailing belief that economic basement was 13,500 feet, below which there was insufficient porosity and permeability. After some considerable thought, we decided to conduct a spec study highlighting 12 of the deepest wells drilled. Our goal was to demonstrate that P&P sufficient for economic production could be found well below that depth, provided one properly applied the limited core data and interpreted the logs with the appropriate petrophysical model.

There were a few very deep wells (20,000' +/-) drilled in the 1970's, 3 of which Rick worked on while employed by Welex. All of those deep exploratory wells were "no dope holes" and only limited data were available on many of them for years after the DOG confidentiality period had expired. More recently, the record for the deepest well drilled in California was set by Unit Operator Elk Hills (934-29R) at a depth of 24,426. Due to hole conditions and other operational limitations on many of the deep wells only limited amounts of core were cut and analyzed. The combination of limited data and corporate secrecy resulted in a very "siloed" knowledge base. We believed that, if sufficient data could be obtained, a comprehensive study would significantly deepen the perceived economic depth limit and reveal significant previously unrecognized exploration targets.

After first putting together a list of deep well candidates, we began contacting companies and offered preferential terms for those companies that would contribute data. In the final cut, we selected 12 wells that offered the most meaningful data and basin coverage. The study took us over a year to complete, due in part to the time required to negotiate the release of and acquire the log and core data.

To facilitate the acquisition and preparation of the analytical data, we considered a deep dive into back issues of the Bakersfield Californian in an effort to glean historical information from Bill Rintoul's columns. That turned out to be a daunting task and it occurred to us that we could just ask Bill to provide us with the info. After a brief discussion, we commissioned Bill to write up a historical summary of each of those wells which we incorporated into the final report.

The afore mentioned downturn was sufficient to seriously reduce our consulting activities, so we had both the data and the time with which to do the study. The results clearly demonstrated that economic basement was well below 13,500 feet. Eventually, we sold copies of the study to 18 companies. We don't know if our efforts convinced any particular company to stick around but we did get a lot of very positive feedback from our peers in those companies.



Map showing locations of the 12 wells described by Bill Rintoul. Numbers correspond to the list in the table below.

The 12 wells included in the study were:

1. Tenneco BPAE Fanucchi 85X-26, 2699'S 131'W NE cr, 26 T31S/R27E
2. American Quasar Petroleum Bravo 1-31, 1320'S 820'E NW cr 31 T23S/R20E
3. Bechtel UO-NPR #1 934-29R, 2238'S & 1708'E fr NW cor S29/30S/23E
4. Chevron Giffen Inc., et. al. #67, 900'N 1900'W SE cr 17 T17S/R15E
5. Great Basins Tenneco 31X-10, 370'S 1700'E NW cr 10, T27S/R22E
6. Standard of California GRI 65-20, 2310'N 1650'W SE cr 20, T24S/R24E
7. Terra Resources Piexoto #1, 330'N 330'W SE cr 26, T19S/R20E
8. Tenneco-Superior-Sandhills 64X, 2400'S 1500'W NE cr, S34 T32S/R28E
9. Shell (Belridge) 51X-33, 606'S 2058'W NE cr 33 T28S/R21E
10. McCulloch Oil Davis-Transamerica Dev. Co. #1-9, 6,200'S 330'W N1/4 cr 4 T22S/R19E
11. Mobil Tupman USL 1-10, 1000'N 1000'E SW cr 10 T28S/R23E
12. Tenneco-Texaco-Yowlumne Unit A 21-13, 630'S 990'E NW cr 13, T11N/R22W

For some, these summaries will be a walk down “memory lane”, but for a growing number, they are an historical snapshot of exciting times that probably will not be repeated. The following are Bill’s descriptions of the drilling and testing of each of those wells.

1. Tenneco BPAE Fanucchi 85X-26

OPERATOR: Tenneco Oil Company
 FIELD OR W/C: Wildcat
 COUNTY: Kern
 SURVEY: 2699'S 131'W NE cr, 26 T31S/R27E MDBM
 ELEVATION: KB 343.6'
 TD: 15,399'
 DATE SPUDDED: 8/22/87
 DATE COMPLETED OR ABD: 11/15/87

In August 1987, the search for deep oil and gas in Kern County moved to the Greenfield area five miles south of Bakersfield. Tenneco, acting as operator for its account and that of BP America, an affiliate of British Petroleum Co., filed notice to drill a wildcat on the Garone property one-half mile south of the intersection of Wible Road and Bear Mountain Boulevard. It was anticipated that a depth of 15,000 to 16,000 feet would be necessary to evaluate targets down to and including the Stevens sand.

The most recent wildcat drilled in the general area was Texas Crude Exploration Inc.'s Costerisan No. 1, three miles to the northeast, which had been abandoned the preceding December at 16,025 feet. The nearest production to the new wildcat was in the Paloma field, five miles to the southwest, where Pliocene gas sands at average depths ranging from 4,180 to 5,520 feet and Stevens sands at average depths of 11,400 to 11,800 feet had produced 60.2 million barrels of oil and 429 billion cubic feet of gas.

With Marlin-West Drilling Co.'s Rig No. 12 handling the assignment, Tenneco spudded in on August 21 and promptly shrouded the operation with a "no dope" curtain. By September 10, the confidential exploratory well was below 11,000 feet. Before the end of the month, the operator was logging in preparation to running an intermediate string of casing, reportedly somewhere below 12,000 feet. By October 20, the operator was logging again, with the hole believed to be somewhere below 14,800 feet. By November 11, Tenneco had reached total depth and was evaluating the well. There was still no release of information, but total depth was believed to be approximately 15,400 feet. There were no rumors of significant shows. On November 14, the operator plugged and abandoned the well. After the confidentiality period expired, the 75th Annual Report of the State Oil & Gas Supervisor, released in 1990, reported that depth of the abandoned well was 15,399 feet. On bottom, the hole was in Miocene sediments. The report disclosed only two markers: Upper Fruitvale, 12,883, and Lower Fruitvale, 14,642-15,399 feet. **Bill Rintoul**

2. Bravo 1-31

OPERATOR: American Quasar Petroleum Co.
 FIELD OR W/C: Wildcat
 COUNTY: Kings
 SURVEY: 1320'S 820'E NW cr 31 T23S/R20E MDBM
 ELEVATION: Rotary Table 271'
 TD: 20,063'
 DATE SPUDDED: 10/8/77
 DATE COMPLETED OR ABD: 5/10/78

The exploratory program called for a depth of 18,000 feet. To handle the contract drilling job, R. B. Montgomery Drilling Inc. put together a big rig at a cost of upward to \$4 million. The exploratory well was to be drilled on a Continental Oil Co. farmout three miles southeast of the abandoned Dudley Ridge gas field, where Tulare and San Joaquin pay sands had been tapped for 4.9 billion cubic feet at average depths of 1,100 to 1,280 feet.

On a Saturday night in October 1977, some two months after the wildcat was announced, Montgomery's electric-powered Rig No. 9 spudded in. Less than two weeks later, crews had cemented 10 3/4 inch surface casing at 6,403 feet. By late January 1978, 110 days after spudding in, the well was at 17,800 feet and preparing to run a combination string of 7-5/8 and 7-3/8 inch casing. Crews had run the string almost to bottom when casing parted at approximately 5,400 feet. Three weeks later, the well was back in the running. The 7 5/8 inch casing had been spliced at 5,541 feet. Circulation had been established to a depth below 16,700 feet. Casing was set at 16,826 feet.

By March 1, the operator was drilling ahead below 17,827 feet. Before the month was over, Bravo No. 1-31 had turned up gas shows. At 18,600 feet, the well was the deepest ever drilled in the San Joaquin Valley north of Kern County. In early May, the hole was bottomed at total depth of 20,063 feet. In route, the hole had encountered temperatures as high as 380 degrees Fahrenheit and pressures over 16,500 psi. The operator prepared to run liner. With liner tied back to the surface, the operator prepared to run tubing, install a Christmas tree and perforate for a production test.

By mid-July, testing had begun. Initial results were inconclusive. During the attempt to evaluate some 70 feet of potential pay in the interval from 19,513 to 19,648 feet, shale and drilling mud plugged the tubing. Crews started in with a 1 1/4 inch jet string to clean out the tubing. The jet string parted after the hole was cleaned out to about 16,000 feet. Crews recovered the fish and resumed cleaning out, proceeding to a depth of about 18,000 feet when the jet string parted again. The fish was recovered. Back in to resume cleaning out, gas was encountered. The operator flared gas briefly as a safety measure. A scout estimated height of the flare at approximately 10 feet. The jet string parted just below 19,000 feet, leaving a fish in the lower portion of the hole.

The operator plugged off the high-pressure zone on bottom and came back up the hole to continue testing. While the crew was attempting to pull tubing, an electrical fire broke out in the rig's silicon-controlled rectifier system. The fire was contained in the SCR house, but the damage disabled the rig. Some three weeks later, testing of an interval from 16,365 to 16,400 feet yielded a weak blow decreasing until the well died. On a test of the interval from 16,240 to 16,260 feet, gas-cut drilling mud was recovered. In attempting to evaluate a zone near the 13,000-foot level, a perforating gun was stuck. The fish was recovered. The operator plugged back to evaluate an interval higher up the hole. On a test from 13,505 to 13,997 feet, the operator pumped acid through perforations but failed to get entry. In mid-November, 403 days after spudding in, the operator abandoned the Bravo wildcat. The cost of drilling the well was estimated at more than \$7 million. **Bill Rintoul**

3. UO-NPR #1 934-29R

OPERATOR: Bechtel Petroleum Operations Inc.

FIELD OR W/C: Elk Hills NPR #1

COUNTY: Kern

SURVEY: 2238'S & 1708'E fr NW cor S29/30S/23E

ELEVATION: DF 1422, GL 1390

TD: 24,426

DATE SPUDDED: 6-5-85

DATE COMPLETED OR ABD: 8-7-87

At total depth of 24,426 feet, this well in the western portion of the Elk Hills field is the deepest hole ever drilled in California.

Still to be answered, though, is the question of whether the exploratory well found anything of commercial interest. Along with the depth record, the well set another record as the costliest hole drilled onshore in

California. The price tag was approximately \$25 million.

The Department of Energy, with Bechtel Petroleum Operations as contract operator, suspended the well in December 1987, ending two and one-half years of continuous, round-the-clock operation. The well was suspended after tubing had been run and a wellhead installed. The decision to shut in the well and release the rig came after an unsuccessful attempt to perforate an interval at about 17,100 feet for a formation test.

The interval that DOE was attempting to evaluate lies above one that gave up some encouragement in December 1986. On an open hole formation test of the 100-foot interval from 17,400 to 17,500 feet, there was a flow of gas at a rate of 791,000 cubic feet per day through a 20/64-inch choke with salt water at a rate of 1,568 b/d.

After making the test, Bechtel took the well on down to total depth of 24,426 feet, or 1,715 feet deeper than any of the approximately 150,000 wells drilled in California since the first oil well was put down in Humboldt County in 1861. One of the more dramatic moments in the long drilling job occurred on June 4, 1987, when the morning tour crew on Parker Drilling Co.'s Rig No. 182 broke the California depth record of 22,711 feet that had been set almost 13 years before by the Tenneco-Superior-Sandhills No. 64X at Sand Hills, 35 miles to the southeast.

DOE drilled the wildcat in a search for deeper production in the billion-barrel Elk Hills field, where most of the oil that has been found lies above 9,000 feet, with only a small amount discovered below that depth and none below 12,000 feet.

DOE plans to resume work at No. 934-29R in fiscal 1993, cutting a window at approximately 13,500 feet to redrill to about 17,600 feet in an effort to get higher on the structure for another look at the zone that showed promise in the original hole. **Bill Rintoul**

4. Chevron Giffen Inc., et. al. #67

WELL NAME:	Chevron Giffen Inc., et. al. #67
OPERATOR:	Standard of California (Chevron)
FIELD OR W/C:	Cantua Creek
COUNTY:	Fresno
SURVEY:	900'N 1900'W SE cr 17 T17S/R15E MDBM
ELEVATION:	DF 365.5'
TD:	14,471'
DATE SPUDDED:	9/30/68
DATE COMPLETED OR ABD:	3/20/69

In late September 1968, Standard Oil Co. of California, now Chevron, began moving in a big Loffland Brothers rig to drill a deep test in the abandoned Cantua Creek Field 22 miles north of Coalinga. The use of a contractor's rig underscored the company's preparations to auction off its remaining 6 rigs in two early October sales, including one in Taft and a second in LaHabra. Ten years before, Standard had been running 10 company rigs in California. A spokesman said the decision to sell the last 6 rigs was prompted by the fact they were not suitable for most of the company's current drilling requirements, which in the past few years had focused on deep drilling.

Four days after spudding in on September 30, the Giffen wildcat was standing cemented with 10-3/4 inch surface casing at 2,517 feet. By the end of November, the well was at 12,110 feet, but Standard had run into hole trouble and was reaming at 9,995 feet. At 10,136 feet, drill pipe was stuck. Unable to recover the fish, Standard plugged back to 7,650 feet to sidetrack. By mid-December, the Giffen well was back in the running,

redrilling below 7,705 feet. In late January 1969, crews were below 12,989 feet after an enforced idle period several days before because of flooding. A few days later, the well was suspended at 13,176 feet when flooding made the access road impassable, cutting off fuel supply to the rig.

By the end of the first week in February, drilling had resumed and the hole was below 13,497 feet, surpassing the previous depth record for the area set by a 13,019-foot hole drilled by Getty Oil Co. that had penetrated 1,019 feet of Cretaceous sediments before it was abandoned. As drilling passed the 14,000-foot depth in mid-February, the date marked the 10th anniversary of the abandonment of the Cantua Creek Field. The field had a disappointing production history, giving up only about 40,000 barrels to two wells, the first completed by Texaco in 1940, the second by Atlantic Richfield more than 10 years later. The producing sand was the Gatchell at an average depth of 9,300 feet. Before the end of February, the well was shut in at 14,315 feet because of lack of fuel. High water had cut the access road again.

By mid-March, answer-time was at hand. The hole was bottomed at 14,471 feet in Cretaceous rocks, 1,452 feet deeper than anyone had gone before in the western portion of Fresno County. The company attempted two tests near the 14,440-foot level. Packers failed both times. Plugging back, Standard attempted another test at 11,758-12,325 feet, but results were inconclusive. The company cleaned out to 12,325 feet, plugged and abandoned. The rig went down, joining 16 other rigs that had gone down within the past two weeks. **Bill Rintoul**

5. Tenneco 31X-10

OPERATOR:	Great Basins Petroleum Co.
FIELD OR W/C:	Wildcat
COUNTY:	Kern
SURVEY:	370'S 1700'E NW cr 10, T27S/R22E MDBM
ELEVATION:	KB 249'
TD:	21,640'
DATE SPUDDED:	9/20/72
DATE COMPLETED OR ABD:	3/31/73

Great Basins Petroleum Co., Tenneco No. 31X-10, Semitropic, Kern County. The trend of deep exploratory drilling that began in 1972 continued in 1973, with three wells going below 20,000 feet. The deepest was Great Basins' Tenneco No. 31X-10, which originally had been proposed for 14,500 feet. Great Basins took the hole to 21,640 feet, surpassing the previous California depth record of 21,640 feet, surpassing the previous California depth record of 21,482 feet set in 1953 by the Ohio Oil Co.'s KCL A No. 72-4 in the Paloma field, 36 miles to the southeast.

The operator cemented 7-inch casing at 17,728 feet and 4-1/2 inch casing from 17,233 to 21,621 feet. While a test was being made of the effectiveness of the cemented annulus between the 4 1/2 inch and 7-inch casing strings, the well began to flow at an estimated rate of 900 b/d of clean 45-gravity oil and 5 million cubic feet per day of gas through a 3/8-inch choke with a surface pressure of 2,800 psi. After the annulus was recemented, evaluation of the well began.

Great Basins went in with a bailer to clean out sand and mud plugging the liner and shot a total of 150 feet in selected intervals from 20,658 to 21,465 feet in the Point of Rocks and other formations. The well failed to flow.

After plugging back, the company perforated a total of 98 feet in the Phacoides section in selected intervals from 17,844 to 18,666 feet. The well flowed at rates up to 720 b/d of 44-gravity oil and 800,000 cubic feet per

day of gas. A Christmas tree was hooked up to put the well on production. Tubing plugged. An attempt was made to circulate out fill by means of a one-inch "macaroni" string run inside the 2-7/8 inch tubing. A fishing job halted the effort.

A last-ditch try was made to complete for fractured shale perforated within the interval from 13,250 to 14,220 feet. After acidizing, the well flowed at rates varying from 300 to 25 b/d gross, recovering circulating water along with oil. In early October, 1973, R. B. Montgomery Drilling Inc.'s Rig No. 5, which had spudded the exploratory well one year and sixteen days earlier, was released. **Bill Rintoul**

6. GRI 65-20

OPERATOR:	Standard of California (Chevron)
FIELD OR W/C:	Wildcat
COUNTY:	Tulare
SURVEY:	2310'N 1650'W SE cr 20, T24S/R24E MDBM
ELEVATION:	DF 232'
TD:	12,224'
DATE SPUDDED:	3/26/70
DATE COMPLETED OR ABD:	4/28/70

Standard Oil Co. of California, now Chevron, in early March 1970 began grading location preparatory to moving in a K. L. Kellogg & Sons rig to drill a deep wildcat 9 miles northwest of Delano. A depth of 12,000 feet or more was planned for the exploratory well, which was on a farmout from Geothermal Resources International Inc. The block covered all or portions of 17 sections.

The nearest production was in the Trico gas field, a 1934 discovery four miles to the west. The most recent exploratory work in the area had been by Geothermal Resources, whose Carpenter et al No. 55X-21, one mile east of the Standard location, had been abandoned at 5,857 feet in Etchegoin formation and whose Nadler et al No. 44X-29, one mile south of the Standard venture, was abandoned at 4,200 feet in Echegoin.

The Standard wildcat fell three and one-half miles northeast of an abandoned hole that Union Oil Co. of California had put down in 1954 in a search for deep oil production. Union's Daniel No. 43-26 went to total depth of 11,465 feet, bottoming in Eocene rocks.

After spudding in on March 26, crews cut top hole, stopping at 106 feet to cement 13-3/8 inch casing preparatory to going deeper. Additional hole was cut, and a string of 9-5/8 inch casing was cemented at 1,627 feet. By April 10, Standard was below 8,725 feet. Before the end of April, the hole was bottomed at 12,224 feet in basement Jurassic. The operator ran dual induction dipmeter, sonic velocity, microlog, density and sidewall sampler. The hole was plugged and abandoned on April 28, 33 days after drilling began. **Bill Rintoul**

7. Piexoto #1

OPERATOR:	Terra Resources, Inc.
FIELD OR W/C:	Wildcat
COUNTY:	Kings
SURVEY:	330'N 330'W SE cr 26, T19S/R20E MDBM
ELEVATION:	DF 233'
TD:	12,852'
DATE SPUDDED:	12/1/81
DATE COMPLETED OR ABD:	1/20/82

In early December, Brinkerhoff Drilling Co., Denver, made its California debut as a drilling contractor, spudding in to drill a wildcat for Terra Resources five miles south of the town of Lemoore. The drilling contractor simultaneously announced plans to move another rig to California soon after the first of the year to drill at The Geysers geothermal field under long-term contract to Union Oil Co. of California.

Terra Resources was looking for a new field 12 miles southeast of nearest production, which was in the Riverdale Field, and approximately 25 miles northeast of a Husky Oil Co. wildcat in the Tulare Lake area that two months earlier had flowed at a 520 b/d rate before water broke in. The Terra Resources well was programmed for 12,850 feet.

Two weeks later, while crews at the Terra Resources wildcat were making hole below 8,000 feet, Husky announced that its wildcat had flowed 35-gravity oil at a 1,000 b/d rate for Temblor sand in intervals at approximately 13,300 feet.

About two weeks later, Terra Resources reported its wildcat was at total depth of 12,850 feet and logging. The drill bit had topped Temblor at 7,298 feet and was in Upper Cretaceous on bottom. A day later, the company abandoned the hole. Though unsuccessful at the Piexoto wildcat, Terra staked locations for two more wildcats to the south of the abandoned well. One was located nine miles southeast of the Husky well; the other, four and one-half miles farther east. The first of the two wells was proposed for 14,800 feet, the second for 16,500 feet.

Bill Rintoul

8. Tenneco-Superior-Sandhills 64X

OPERATOR:	Tenneco Oil Company
FIELD OR W/C:	Wildcat
COUNTY:	Kern
SURVEY:	2400'S 1500'W NE cr, S34 T32S/R28E MDBM
ELEVATION:	KB 440'
TD:	22,711
DATE SPUDDED:	3/1/74
DATE COMPLETED OR ABD:	1/23/75

One of the historic sidelights to Loffland Brothers' Rig No. 34 that began rigging up at Sand Hills in February 1974 was the drawworks. The National 33-62 FE draw works had first been used in California in the 1930s when Superior put it to work developing the Rio Bravo field. One of the men who had helped rig it up then was serving as Superior's toolpusher for the Sand Hills wildcat. After almost 10 years of assignments in the San Joaquin Valley, the drawworks had gone to Ventura County to drill Limoneira No. 1 in the Montalvo field, which bottomed at 18,734 in 1949, establishing a world's depth record.

The Sand Hills wildcat was programmed for 18,500 feet, though there was talk of going as deep as 21,000 feet. The hole was to be drilled on a 3,500-acre block acquired on assignment from Buttes Resources Co., a wholly-owned subsidiary of Buttes Gas & Oil. On October 29, two hundred and forty-three days after spudding in, Sandhills No. 64X drilled ahead below 21,640 feet, surpassing the California depth record that had been set one and one-half years before by Great Basin's Tenneco No. 31X-10 in the Buttonwillow area 45 miles to the northwest. While taking note of the record-breaking with a barbecue at the rig site, Tenneco and its partner, Superior, were more intent on finding oil and gas and kept right on going. The play was for a new field discovery four and one-half miles north of the North Tejon field, where deepest production was for Eocene at 11,000 feet, and nine miles southwest of the Mountain View field, where deepest production was from Miocene at 9,600 feet.

By mid-November, crews working on the Sandhills well were wondering about another record. Everyone knew the world's record for deep drilling was 31,441 feet established in the preceding April by a well near Elk City, Oklahoma, but the crews wanted to know what the record was for pulling core. They had just pulled one from approximately 22,200 feet. A Tenneco geologist proudly carried a sample in his pocket, showing the piece of sandstone that looked hard as granite to friends. There was speculation about how much deeper the Sandhills well would go. There was enough drill pipe to go to 23,000 feet. The rig, with modifications, could go to 30,000 feet, if not deeper. By the end of November, the hole was near the 22,600-foot mark.

Tenneco halted downward progress at 22,711 feet. Five-inch liner was run to a point near bottom. Plans called for testing before a decision was made whether to go deeper. Because of depth and temperature considerations, speculation was that if the wildcat did prove productive, output would be in the form of gas and condensate rather than black oil. After testing near bottom, Tenneco came back up the hole for further testing. On January 15, 1975, three hundred and twenty days after spudding in, Tenneco and Superior called it quits. At total depth, the well was 1,071 feet deeper than anyone had gone before in California. The price tag came to more than \$3 million. **Bill Rintoul**

9. Shell 51X-33

OPERATOR:	Shell California Production, Inc.
FIELD OR W/C:	South Belridge
COUNTY:	Kern
SURVEY:	606'S 2058'W NE cr 33 T28S/R21E MDBM
ELEVATION:	KB 640'
TD:	14,565'
DATE SPUDDED:	9/21/81
DATE COMPLETED OR ABD:	6/12/82

Kernridge Oil Co., No. 51X-33, South Belridge, Kern County. In mid-September 1981, Kernridge Oil Co., a subsidiary of Shell Oil Co., began moving in Loffland Brothers' Rig No. 328 to drill an exploratory well that was programmed to go deeper than any well ever drilled in the South Belridge field. The program called for a depth of 15,000 feet at the company's No. 51X-33. The targets included Agua, Phacoides, Oceanic and Point of Rocks sands.

Before the preceding year, production at South Belridge had been confined to shallow horizons, notably the Tulare and Diatomite zones down to about 3,000 feet. In 1969, Kernridge had scored a deeper pool discovery with an 8,800-foot well that tapped the Devilwater zone of Middle Miocene age for 130 b/d of oil, cutting 50 percent. Mechanical problems intervened, and the well had been shut in.

The site of the deep test fell one and one-quarter miles northwest of the Devilwater discovery and on the same section where Belridge Oil Co.'s No. 62W-33 had gone to 14,104 feet in 1947, establishing the depth record for the field. On bottom, the Belridge well had been in Oceanic.

Some two months after spudding in on September 21, Shell marked the two-year anniversary of the purchase of Belridge Oil co. for \$3.65 billion, which was the biggest in the United States' corporate history. In a speech before the San Joaquin Valley Chapter of the American Petroleum Institute, Gene Voiland, manager of production operations for Kernridge Oil Co., said of the purchase that Shell had decided to buy reserves if the right buy came along at the right time. "Belridge was that buy," the Shell Official said.

Voiland said that Kernridge's production was approaching 70,000 b/d, up from 42,000 b/d at the time of the purchase. Pointing out the field's proximity to the Elk Hills and Midway-Sunset fields, both billion-barrel accumulations, he added, "We anticipate Belridge also will recover nearly one billion barrels."

In early March 1982, the hole was at 13,815 feet when a fishing job intervened. The operator came back up to the shoe of 13-3/8 inch casing cemented at 6,007 feet to kick off for a redrill. Drilling proceeded to total depth of 14,565 feet. Kernridge abandoned the well at that depth in July. After the period of confidentiality had passed, the state's Division of Oil & Gas in its 72nd Annual Report of the State Oil & Gas Supervisor, released in 1987, reported that on bottom the well had been in Kreyenhagen of Eocene age. Markers included diatomite, 694 feet; Antelope, 3,500 feet; McDonald, 5,740 feet; Devilwater, 7,050 feet; Gould 7,540 feet; Button Bed, 9,525 feet; Carneros, 10,470; Agua, 12,147 feet; Upper Phacoides, 12,930 feet; Lower Phacoides, 13,401; Salt Creek, 13,723 feet; Oceanic, 14,175 feet; and Kreyenhagen, 14,521 feet to bottom. **Bill Rintoul**

10. Davis-Transamerica Dev. Co. #1-9

OPERATOR (OH, RD1):	McCulloch Oil Corporation
OPERATOR (RD2, RD3):	American Pacific International
FIELD OR W/C:	Kettleman City
COUNTY:	Kings
SURVEY:	6,200'S 330'W N1/4 cr 4 T22S/R19E MDBM (Sec. 9 T22S/R19E)
ELEVATION:	KB 195'
TD:	15,894'
DATE SPUDDED:	10/20/70
DATE COMPLETED OR ABD:	8/26/71 (RD 1)
COMMENCE REDRILL:	4/16/77
DATE ABD (RD2, RD3):	5/31/77

On the night of January 7, 1971, while drilling was in progress at 14,181 feet, the McCulloch wildcat tried to get away. The crew on R.B. Montgomery Drilling Inc.'s Rig No. 7 was drilling with 116-pound mud and the first indication of trouble came when they began to gain mud in the pit. They pulled the bit up 48 feet off bottom and shut in the well, which in seven and one-half minutes kicked out 150 barrels of mud. Oil and gas surfaced.

The strong show raised visions of another Kettleman Hills. The Kettleman North Dome Field, a 1928 discovery 5 miles to the west, had produced more than 425 million barrels of oil from Temblor and Vaqueros Formations. Unfortunately, the aborted blowout also stuck the string of drill pipe, causing the operator to lose the lower portion of the hole.

McCulloch cemented off the lower portion, set a plug and started a redrill from 10,257 feet. When the company got back down to where the first hole had tried to blow out, they seemingly missed the sand. They continued on down to original objective, the Gatchell sand, finding it below 15,000 feet at a depth close to where they thought they would find it.

There were indications of hydrocarbons, but attempts to evaluate the Gatchell failed to produce the hoped-for encouragement. Temperatures close to 300 degrees Fahrenheit caused mechanical failures. McCulloch ground out more footage, taking the well to total depth of 15,894 feet, a new record for Kings County. Disappointed but not ready to quit, the company backed up and redrilled to 14,338 feet.

On a late August afternoon, McCulloch turned the Kettleman City wildcat to the tanks, signaling the discovery of a new oil field. On a one-hour run, the well flowed at a rate of 4,329 b/d of 33.6 degrees gravity oil, cutting 20 percent water, from some 800 feet of perforations in the overall interval from 12,860 to 14,160 feet in what were described as the Temblor and Vaqueros Formations. Remedial operations to shut out water continued until mid-November, when the well was placed on production flowing 183 b/d of oil and 45,000 cubic feet per day of

gas through a 12/64-inch choke with a water cut of 43 percent. During 395 days of continuous operations, 174 drilling bits and mills had been used.

The McCulloch well was the first in the township to go below 14,000 feet. Four other wells in adjoining townships had gone below 14,000 feet, for a total of five deep holes in a 324-square-mile spread. None of the earlier tests, all abandoned as dry holes, fell closer than six miles to the McCulloch discovery.

After the McCulloch wildcat had tried to blow out in January, landmen had taken to the field en masse, signing up oil and gas rights for all the open acreage they could find. By the time McCulloch completed the well, various companies and individuals had taken leases on 143,000 acres, or more than 223 square miles. The leasing campaign had spilled over into Kern County on the south and Fresno County on the north, with leases spread over an approximately 70-mile northwest-southeast trend from Five Points, Fresno County, to the vicinity of Wasco, Kern County. No one knowledgeable about oil development expected the field discovered by McCulloch's wildcat to extend 70 miles. The thought was that the find might point the way to the discovery of similar accumulations along the trend. **Bill Rintoul**

11. Mobil Tupman USL 1-10

OPERATOR:	Mobil Oil Corporation
FIELD OR W/C:	Wildcat
COUNTY:	Kern
SURVEY:	1000'N 1000'E SW cr 10 T28S/R23E MDBM
ELEVATION:	KB 321'
TD:	20,753'
DATE SPUDDED:	10/28/72
DATE COMPLETED OR ABD:	2/5/74

Mobil Oil Corp., Tupman USL No. 1-10, Buttonwillow, Kern County. In April, 1973, Mobil cemented a string of 7-3/4 inch casing to approximately 18,070 feet at Tupman USL No. 1-10, a joint test with Gulf Oil that had been spudded the preceding October. When the crew on Loffland Brothers Co.'s Rig No. 16 went to core ahead, they pulled two cores and were cutting a third when the well tried to get away. The crew weighted up the mud, controlled the kick and made more hole, continuing to get shows. The well was a "no dope" hole, but the rumor was that the shows were in the Phacoides sand. The Mobil wildcat was on the same structural complex as Great Basins' Tenneco No. 31X-10, nine miles to the northwest, which earlier had turned up shows in what was believed to be the Phacoides. There was speculation that the two wildcats had tapped a major new field.

Mobil drilled ahead, looking for the Point of Rocks sand. In July, drill pipe was stuck at 20,233 feet. The company sidetracked the fish at about 19,700 feet and took the wildcat on down to 20,753 feet, bottoming in Eocene. By October, the operator was ready to attempt completion. the first interval tested was in the Point of Rocks, reportedly somewhere below 19,000 feet. The well was rumored to have run high in the section, but if there had been any significant shows in the sand, it remained a well-kept secret. The Point of Rocks failed to come through.

The horizon that most observers looked to for whatever excitement the wildcat might generate was the Phacoides. If Mobil succeeded in completing the well, it would prove up a new field one mile east of the abandoned Buttonwillow gas field, a 1926 discovery that had been the first commercial gas field in California, and seven miles north of the town of Buttonwillow.

The operator perforated what was rumored to be some 120 feet in the overall interval from 18,066 to 18,250 feet in the Phacoides. The well flowed by heads, reportedly recovering considerable heavy mud along with oil and

gas. No rates were released, but they were said to be disappointing. A small flare underscored the disappointment.

The company perforated an interval from 17,575 to 17,700 feet rumored to be in the Vedder. Tubing plugged while testing was under way. The tubing string parted when an attempt was made to clean out. Next up was the Round Mountain in selected intervals from 14,880 to 14,973, followed by the McDonald shale in selected intervals from 13,480 to 13,690 feet. When the latter produced water, Mobil threw in the towel. Despite abandonment of the wildcat, it appeared the search for deep production in the Buttonwillow was not over.

There was talk of three more exploratory wells in the offing, including one to be drilled by Gulf, another by Texaco and third by Tenneco and Union Oil Co. of California in a joint venture. **Bill Rintoul**

12. Tenneco-Texaco-Yowlumne Unit A 21-13

OPERATOR:	Tenneco Oil Company
FIELD OR W/C:	Yowlumne
COUNTY:	Kern
SURVEY:	630'S 990'E NW cr 13, T11N/R22W SBBM
ELEVATION:	KB 729'
TD:	22,029'
DATE SPUDDED:	2/4/75
DATE COMPLETED OR ABD:	2/14/76

Texaco Inc., Yowlumne No. 21-13, Yowlumne, Kern County. Before the end of February, 1975, drilling had passed the 9,200-foot mark at Yowlumne No. 21-13 en route to a proposed depth of 22,000 feet to test the Eocene at the edge of the 13-month-old Yowlumne field 20 miles south of Bakersfield. The effort was the second aimed at evaluating the Eocene's Point of Rocks sands. The first, one-third mile to the west, had been spudded two years earlier, but it had been stopped short of Eocene by a fishing job at 20,702 feet. The well had succeeded in discovering the Yowlumne field, proving up production in Stevens sands at 11,300 feet.

The field had produced half a million barrels of oil by the end of its first year. At the new Eocene test, Texaco, as operator for itself and Tenneco Oil Co., was using Loffland Brothers' Rig No. 34, rated for 30,000 feet. The rig had been brought to California to drill the wildcat that turned out to be the Yowlumne discovery well. The name given the field, meaning "Wolf People," was that by which the inhabitants of the site of what later became Bakersfield had been known among their fellow Yokuts.

By April, the wildcat was below 11,200 feet. The Yowlumne field claimed the distinction of having the highest rate of production per well in California, running almost twice that of its nearest competitor. The per-well average for Yowlumne's five wells was 717 b/d, compared with 364 b/d for South Elwood Offshore's 10 wells. In early June, Texaco stopped at 13,500 feet to cement 10-3/4 inch casing. By mid-August, the hole was below 18,000 feet. As September ended, Texaco stopped near the 20,100-foot mark to run another string of protection pipe after making approximately 7,600 feet in open hole below the shoe of the 10-3/4 inch casing. In October, a fishing job halted progress. At the end of November, crews were still trying to recover stuck drill pipe, reportedly just below 22,000 feet.

In December, preparations began to test the wildcat. Total depth was 22,029 feet, making the hole the second deepest in California, runnerup only to the 22,711-foot wildcat that Tenneco-Superior had abandoned earlier in the year in the Sand Hills area 14 miles to the northeast. Top of the fish in the Yowlumne well reportedly was approximately 21,250 feet. It was rumored there were several zones to test. In late December, Texaco was rumored to be testing after perforating near the 18,000-foot level.

As January 1976 began, the prevailing opinion was that if Texaco had any significant encouragement, the company was doing a good job of keeping it to itself. Before the end of the month, the company confirmed it was abandoning the lower portion of the deep well in favor of completion from proved pay at about 11,300 feet. In February, Tenneco, taking over as operator from Texaco, completed Yowlumne No. 21-13 in the Stevens sand, getting a flow at an undisclosed rate. According to field reports, the well did not appear to be on a par with earlier completions in the field.

In April, Jim Dorman, division exploration geologist for Tenneco in Bakersfield, in a speech at the annual meeting of the Pacific Section of the American Association of Petroleum Geologists challenged fellow geologists who believed the San Joaquin Basin had only minor potential for new oil and gas discoveries, declaring that in the past six years' exploratory activity wildcatters had found more than 200 million barrels of oil, including the Tule Elk Field, which after later litigation was reclassified as part of the Elk Hills field; the Rio Viejo Field; and the Yowlumne Field. The discoveries came in an area, Dorman said, where over the 6-year period industry had risked a grand total of \$81.8 million.

"If you run that through your pocket calculator," Dorman said, "you will get a 'cost-to-find' of approximately 40 cents a barrel. If my arithmetic is correct, you can put that against any domestic basin you choose." Dorman added, "Along with such new tools and concepts as global tectonics, geochemistry and geoseismic modeling, let us not forget imagination, innovation and creativeness." **Bill Rintoul**

Postscript

In the decades following completion of that study the O&G business has been seriously impacted by price fluctuations and politically motivated anti-oil sentiment. Bill's column was read by a great number of influential Californians outside of the oil patch and did much to convey to the state's citizenry a better understanding of and an appreciation for the O&G industry. For most of the post WWII 20th century the public perception by most Californians (not living in Santa Barbara) was that oil and gas generated wealth for the state, good jobs for many, and fuel for an upwardly mobile society. The 21st century has ushered in waves of increasingly hostile anti-oil sentiment and over-regulation, all of which has increased our costs, decreased exploration and production, reduced our work force and damaged the state's economy. Sadly, the O&G industry no longer has a literary spokesman who can, on a continuing basis, enlighten the public and instill an appreciation of California's oil and gas resources and the people and institutions that manage and produce them. We miss you Bill.

Member Society News

Alaska Geological Society www.alaskageology.org

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Thursday, September 16, 2021

Speaker and topic to be announced on the website

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September Meeting: Check the website for further information

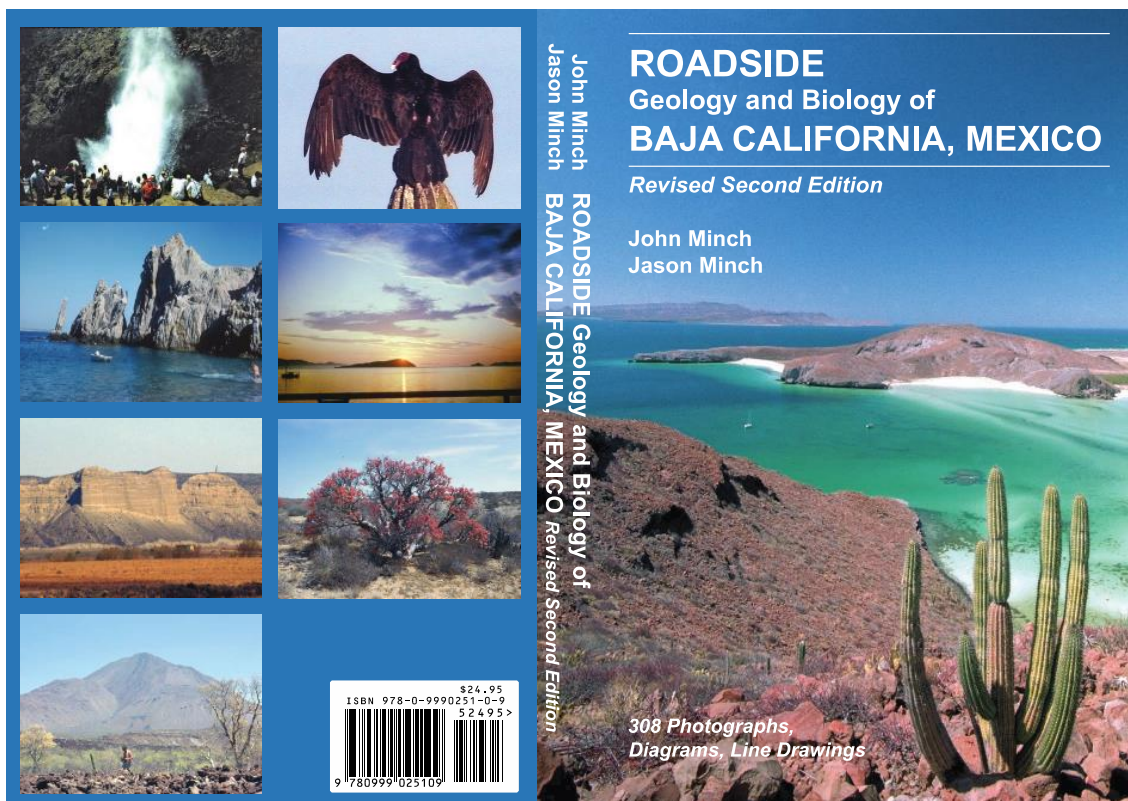
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Contact:
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www.sanjoaquingeologicalsociety.org

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Contact: Mark Korte-Nahabedian
marknahabedian@gmail.com

The SJGS is planning their annual Fall Fiesta for September 24th, the current Covid surge permitting. Check the website for more information.

Monthly talks will begin Tuesday October 12th, with Tom Howard scheduled to talk in person back at the American Legion Hall. If necessary, the format could change to virtual at any point. Check the website for updates.

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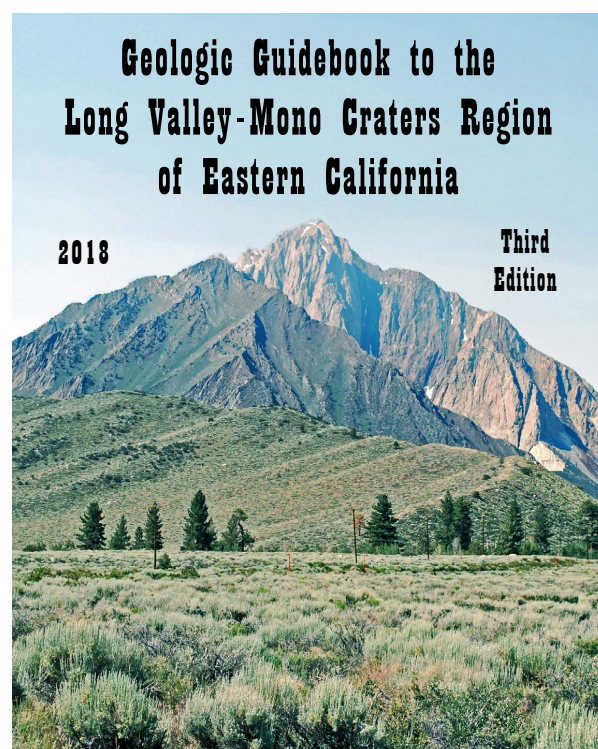
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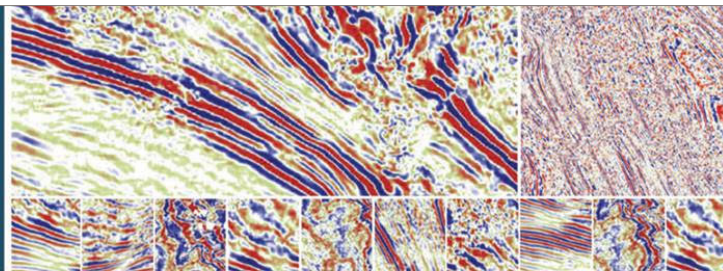
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