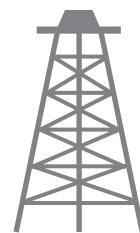




Pacific Petroleum Geology



NEWSLETTER

Pacific Section • American Association of Petroleum Geologists

July & August 2020

Summer of 2020



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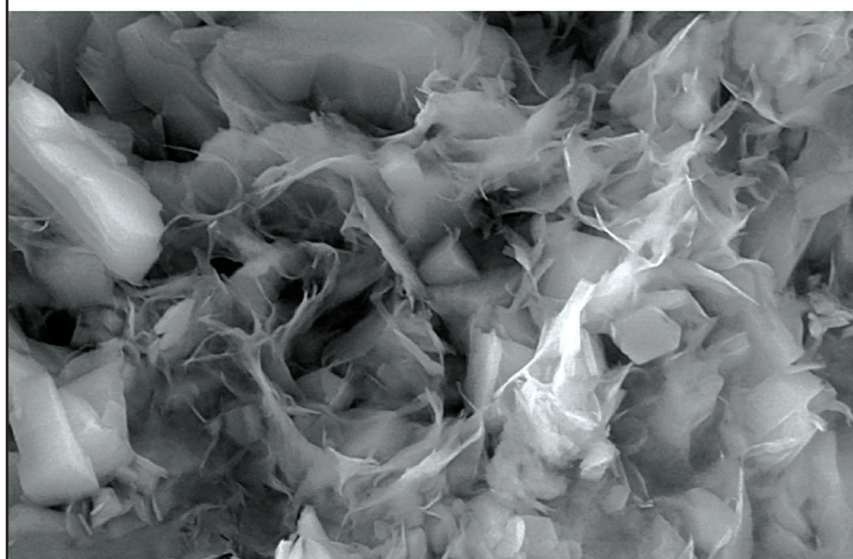
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Cover Photo: Quarry Cove at Montana de Oro State Park, one of my favorite places to visit. The pandemic has resulted in cancelation or postponement of all in-person geologic meetings and field trips through the Summer of 2020 and beyond. Many of us are attempting to satisfy our travel desires by reviewing our catalog of photographs and reviewing the places we have visited. For a look at a recent trip of Cynthia Huggins and Dan Schwartz, check out Part 1 of their Africa Adventure on page 7.

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,

I hope this newsletter finds you and your family well. 2020 continues to throw curves to us. I am thankful to report that my family is doing well. We do miss seeing our family and friends, as we've stayed in Bakersfield for almost all the shelter in place, since March.

I am still (gratefully) working from home. I have figured out the best place to set up my computer so that I am not distracted but can still enjoy the views of the yard (and my house plants and garden have never been happier!). Working from home was not something I imagined happening prior to the pandemic. The oil and gas industry, although enjoying the advances in technology, seemed far from embracing the flexibility that comes with working from home. It will be interesting to see how our work changes in the future.

By now we would be welcoming in our new Executive Committee for Pacific Section AAPG. Initially, we postponed the election, as it usually kicks off right around the time most of us started sheltering in place. As the months went by, we asked the current executive committee if they would be willing to stay on for another year. 2020 has been an anomalous year to start, the cancellation of our annual convention was very difficult and with ongoing uncertainty we thought it would be nice to have some continuity as we finish the year. The current Ex-Comm has agreed to stay on for the 2020-2021 year. I am so fortunate to have such a strong group of geoscientists to serve on our Executive Committee, our Convention Committee, and in our local societies. Thank you so much for sharing your time with us. We'll get through this.

I am happy and pleased to say that despite the chaos associated with the pandemic we were able to maintain our scholarship program and award \$20,000 to Pacific

Section students. Congratulations to all and best of luck in this trying time. We also were able to do our first 100% virtual IBA Competition. Cynthia Huggins is our Pacific Section Coordinator and Afton Van Zandt is the National Chair. Both women did an exceptional job managing an incredibly difficult year of competition. Most students were shut out of their campuses in March, along with their IBA datasets. So, it was quite a task to get everything prepared for the competition. California State University Long Beach and Loma Linda University (first time participating) both did a wonderful job. For more details be sure to read Cynthia's article in this newsletter.

Enjoy the rest of the newsletter; we will be adding more travel articles from members over the next few editions. If you have something you'd like to share, please send it to our Editor in Chief, Tony Reid.

If there is something that you need or would like to hear from us, feel free to let us know.

Stay safe, stay well, stay sane.

Until next time,

Becca Schempp



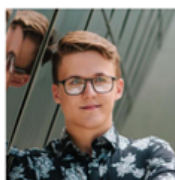
IBA 2020 - A Very Strange Year

Cynthia Huggins

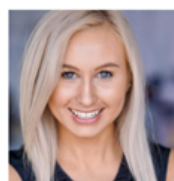
On May 27, 2020, PSAAPG held its Imperial Barrel Award (IBA) competition. Originally scheduled for mid-March, as with so many things this year, IBA was postponed and eventually held virtually. We had two of our original four teams able to come together to complete their evaluation and present their work to a panel of judges. There were so many obstacles to solve with Covid-19 related problems, mainly the data sets were on school computers and student were not allowed on campus or even able to meet in person off campus! IBA is a challenging program under the best circumstances. Two of our teams, California State University Bakersfield and San Diego State University, unfortunately could not re-gain access to their data and were forced to withdraw. All teams were supplied a new AAPG dataset to evaluate: The West Faroe-Shetland Basin.

After a two-month hiatus the teams from California State University Long Beach and Loma Linda University were able to pick-up and finish their evaluations and present via Microsoft Teams their recommendations to a panel of judges.

Below is the Loma Linda University team (first time IBA competitors). Their facility advisor was Kevin Nick, and their Industry Advisor was David Miner.



Levente Laisz, President AAPG Student Chapter
Seismic and well data processing, 3D modeling

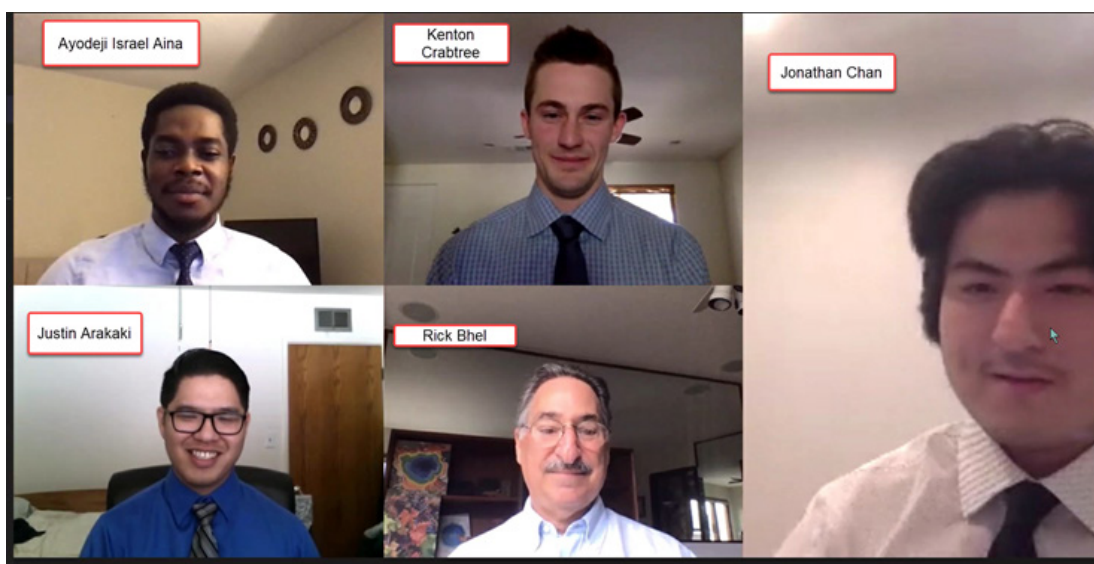


Brittney Springer, Secretary AAPG Student Chapter
Geologic background and statistics



Taylor Kellin, VP AAPG Student Chapter
Seismic interpretations, PPT tzar

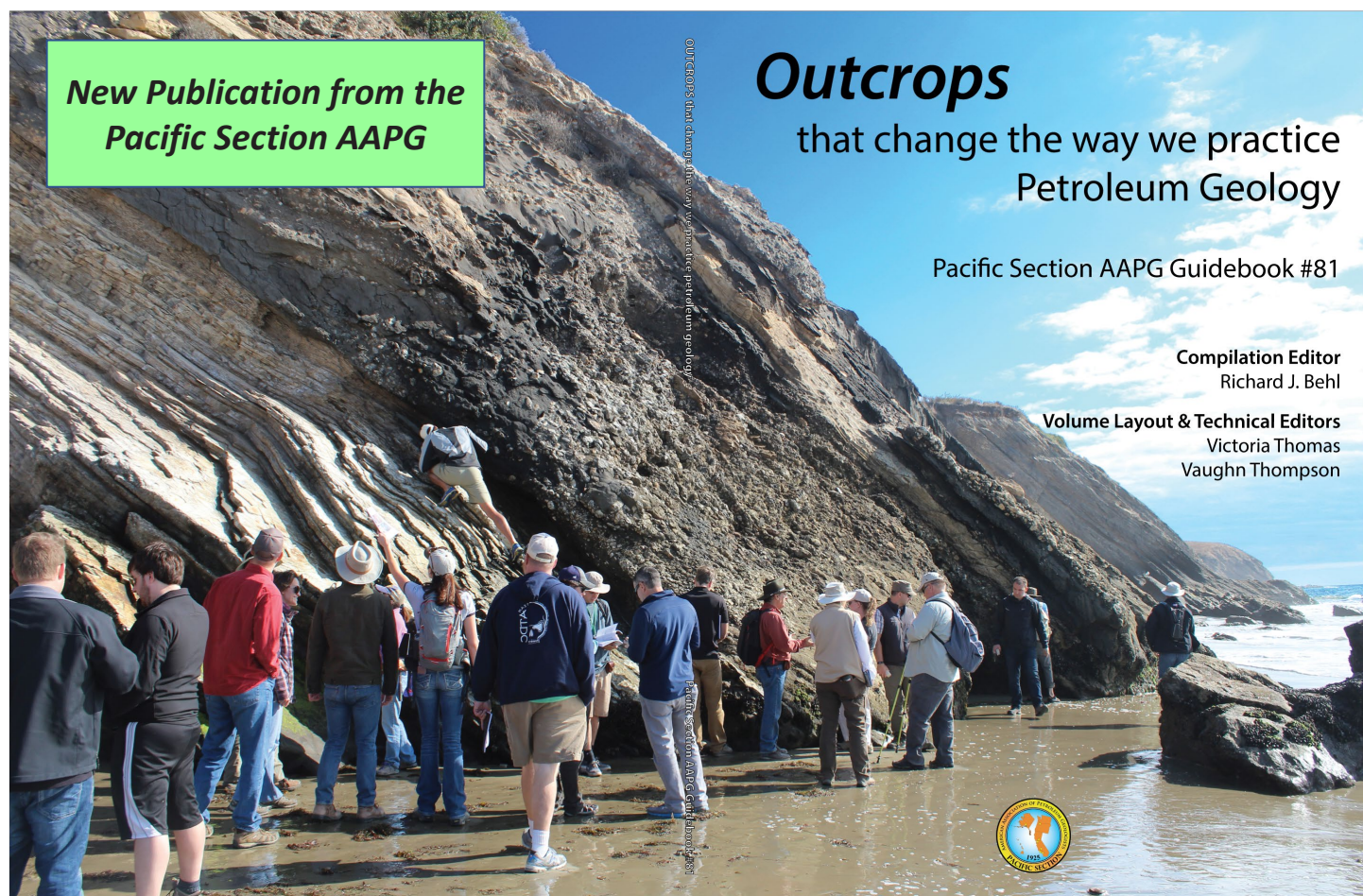
The California State University Long Beach team Ayodeji Israel Aina, Justin Arakaki, Jonathan Chan, Kenton Crabtree. Richard Behl was their Faculty Advisor and Kurt Neher and Kristy Whitaker were their Industry Mentors.



The team that went on to represent PSAAPG at AAPG was **California State University Long Beach!!** They did a fantastic job representing the Pacific Section at the all-virtual AAPG Global IBA competition held on June 5 and 6.

We want to acknowledge the Cal State Bakersfield and San Diego Teams for all the effort they put into the project, having worked the data set for about a month before the Covid-19 lockdown. The Cal State Bakersfield team consisted of Zachry Webb, Austin Fowler, Mena Moerike, Caleb O'Rourke, Eneas Torres Andrade, and their facility advisor was Dr Liaosha Song. The team from San Diego State University was comprised of Ryne Adams, Danielle Brown, Elijah Ruffner, Hayden Long, Scott Little, and their facility advisor was Kip Hering.

I want to thank our Judges Sean O'Connor, Greg Gordon and Dan Schwartz, our technical guru Simmie Chehal, and my co-coordinator Lisa Alpert. Without all of them the competition would not be possible. Finally, I want to acknowledge Aera Energy for their continued financial and resource support.



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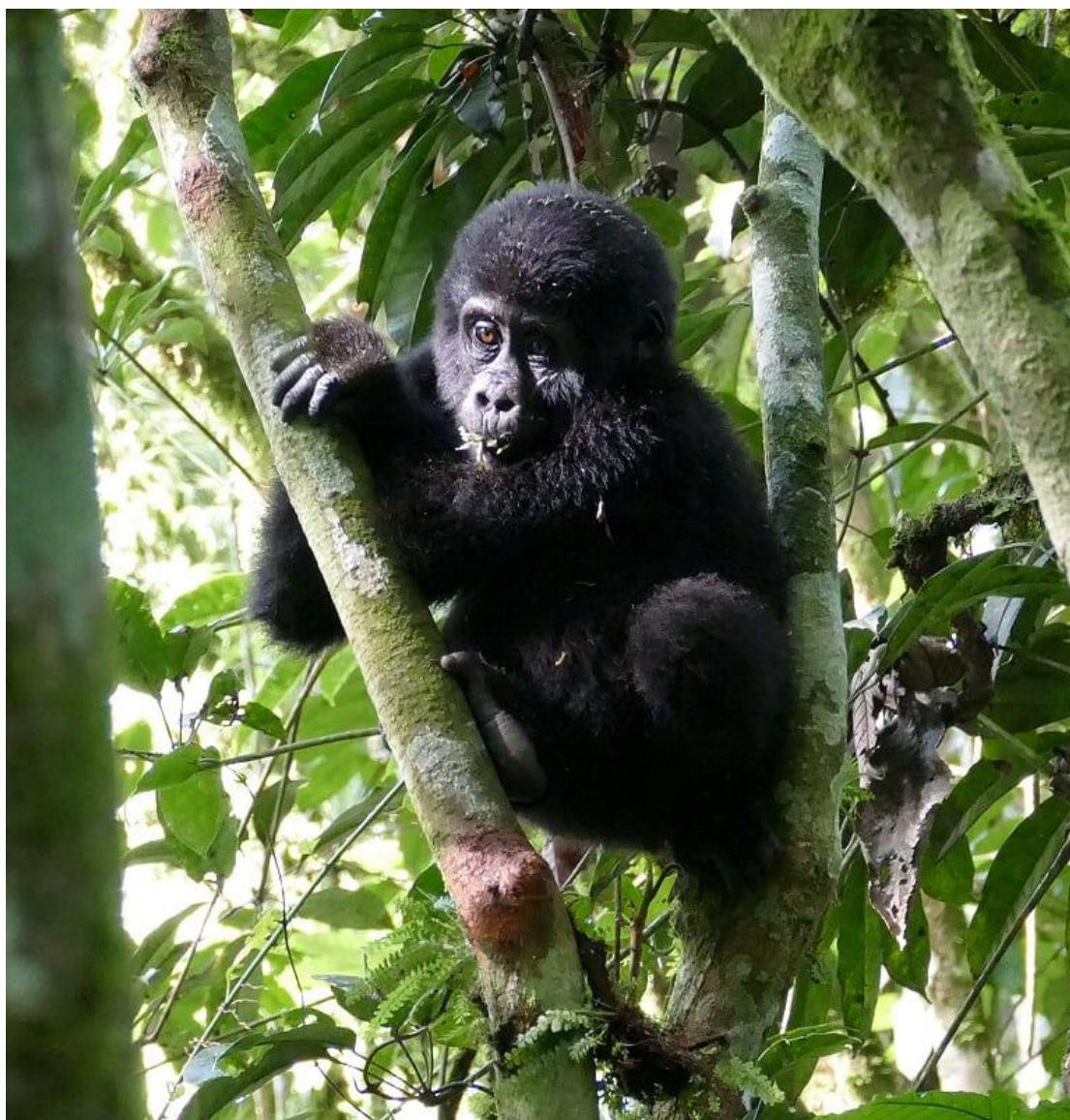
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Continuation of our series on member's travel experiences...

Cynthia Huggins and Dan Schwartz Trip to Africa Part 1



A Great Adventure

We have been to Africa before, for work and for play, and it always manages to leave a bit of itself attached to your heart and for us, forever waiting to return. There are so many attractions: the animals, the people, the countryside, the geology, and the cities and villages. Always something different. Exotic. Mysterious. Beautiful. Amazing. Compelling. Sometimes heart-stopping, threatening, scary.

This trip was a bucket list-er. Gorillas in Uganda, Victoria Falls and the Zambezi River in Zimbabwe; Ngorongoro Crater and Olduvai Gorge in Tanzania; and the Okavango Delta in Botswana. A mix of fabulous animals, amazing geology, and the birthplace of mankind; what's not to like? Two weeks to fly-in, drive around, fly-out, repeat...easy.

We planned our adventure by trying to find the right sequence of events, to get safely and efficiently from one place to the next. After all, from recent news, Africa is a continent in flux and there is not a guarantee of straightforward entrances and exits. We found that the Africa we were visiting had also changed. Massive migrations of people from one country to another were causing stress on what had been relatively stable regimes. Renewed Ebola outbreaks were taking place across borders in some of the countries we were visiting. Airport and border checks were a bit stressful (unfortunately it may have been a precursor to a possible post-Covid 19 travel world, where all travelers were scanned for temperature. If any elevated temperature was noted, off you went to hospital, no exception). All these changes and challenges were eye-opening and required patience.

We traveled independently and got support from many sources. We used Abercrombie and Kent for airplane reservations, gorilla permits and a visa expeditor to ensure all our paperwork was in order. We had many transfers and flights on ever-shrinking planes. We so appreciated our local guide's knowledge and compassion helping us understand the scope of the recent changes on the people, parks and points of interest and leaving us with an even greater desire to return. Seeing the gorillas was utmost and the order of our stops was controlled by a limited number of permits issued in Bwindi Impenetrable Forest. From there we zig-zagged our way from stop to stop.

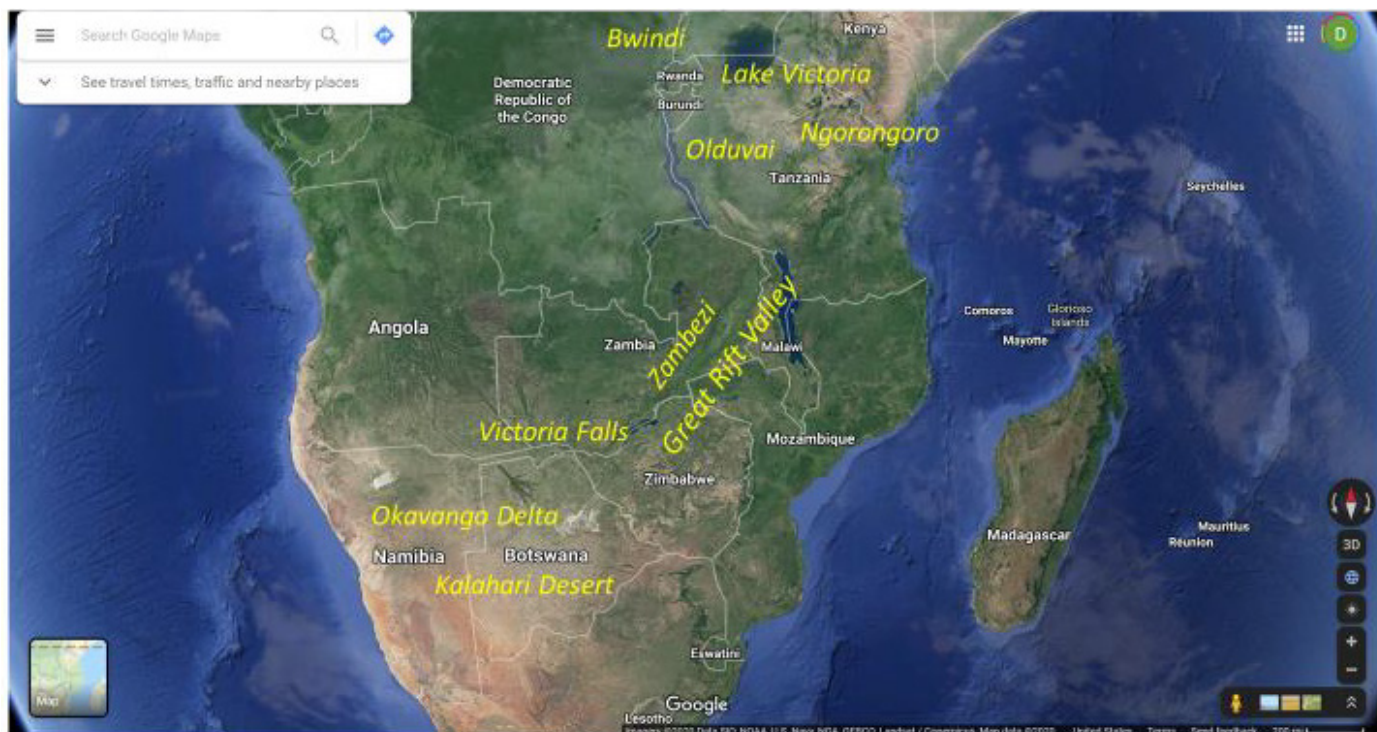
We went in November, to optimize vacation time, get in a shoulder season for rain and temperature, and to minimize the chance of being swept up in vast herds of tourists on spring, summer or Christmas holiday break.

We flew from Los Angeles to London; London to Johannesburg (South Africa); Johannesburg to Entebbe (Uganda); Entebbe to Kilimanjaro (Tanzania); Arusha (Tanzania) to Nairobi (Kenya) to Johannesburg; Johannesburg to Victoria Falls (Zimbabwe); drive Victoria to Kasane (Botswana); fly Kasane to Abu Camp; Abu Camp to Chief's Camp; Chiefs Camp to Maun (Botswana); Maun to Johannesburg; Johannesburg to London; and London to Los Angeles.

Our main stops



The satellite view:



What we went to see:

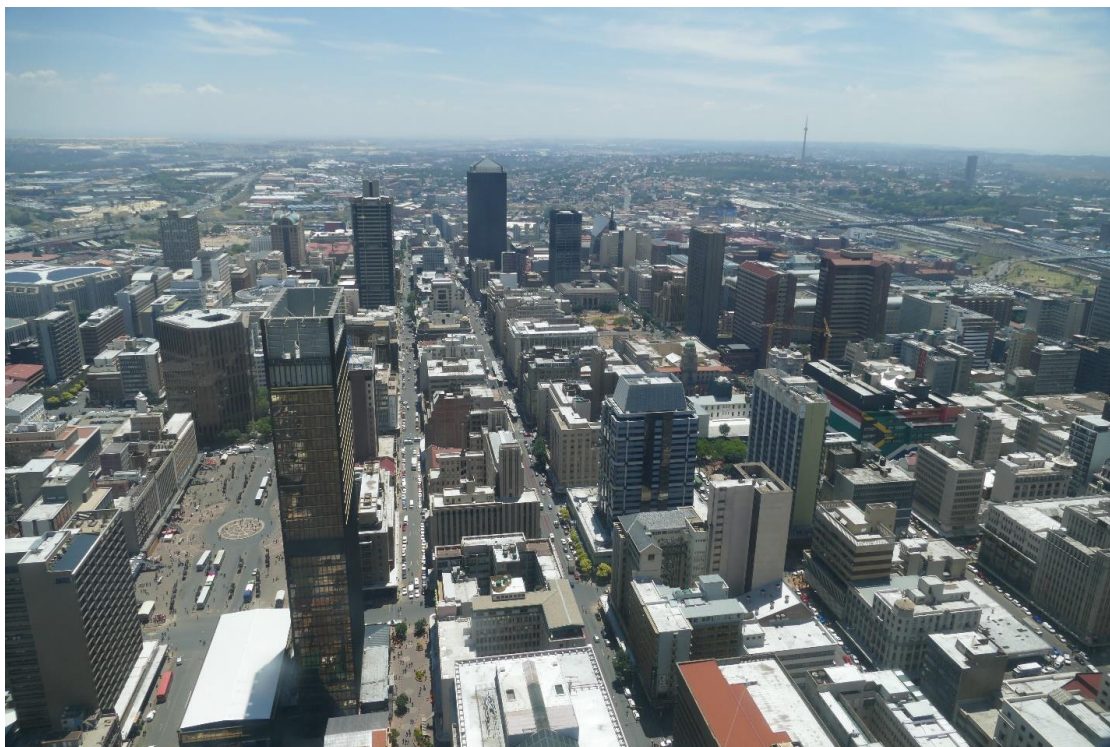
- Gorillas in the Bwindi Impenetrable Forest;
- Lions, ostrich, and hippos in Ngorongoro Crater;
- Where early human ancestors lived in Olduvai Gorge;
- The Zambezi River and Victoria Falls; and
- Elephants, lions, leopards, hippos, wild dogs, rhinos and warthogs on the Okavango Delta.

Along the way we saw so much more and learned more about the people of Africa.



After a full day of flying from California, we had most of a day in Johannesburg to get out and see the sights. It was eye-opening. We found a guide to show us what Johannesburg was like for the locals. We first went to

Soweto, an enclave in Johannesburg where during Apartheid the native Africans were forced to reside. Our guide, Thomas, grew up in the Soweto slum and his life story was not one you get to hear or read about. One stop was at Nelson Mandela's home. History and persistence with bullet holes around the front door.



Thomas took us into downtown Johannesburg, where we took a scary elevator ride to the top of the Carlton Center Tower. Looking west over Johannesburg, in the foreground to the left is Gandhi Square, where the British accepted the surrender of the Boer's in 1900. Mahatma Gandhi had his legal office nearby. Most of the buildings in downtown Johannesburg are vacant, including the Carlton Center Tower. Companies have left the country or relocated to the suburbs. Back to the photograph, gold mines to the left and right have been over-run by the growth of the city. Most of South Africa's gold is south and west of Johannesburg, contained in Archaen (~3.2 billion years old) meta-conglomerates in the Johannesburg Subgroup of the Witwatersrand Supergroup in the Witwatersrand, which is erosion resistant quartzite (metamorphic fluvial rocks) that forms a 35 mile long ridge. The ridge was uplifted by the impact of the Vredefort Meteor. Gold was discovered in 1886 and since then over 50,000 tones has been mined, or about 50% of all the gold mined on earth. Needless to say, we did not bring home any samples on this trip.

On the following day we departed Johannesburg for Entebbe, Uganda on the shore of Lake Victoria. The flight was pretty smooth, landing at the Entebbe airport, where in the 1970's the Israelis carried out the daring rescue of their hijacked citizens. While the airport has been updated since that time, it is the staging base for UN staff and equipment, with planes and a huge supply base. We drove on very rutted dirt roads from the airport and arrived at our overnight stop on the shores of Lake Victoria.

The following morning, we left Entebbe and flew to Mbarara, to get to our first bucket-list-stop.



The countryside between Entebbe and Mbarara is amazingly green with scattered plantations on rolling hills with beautiful meandering streams.

The drive from Mbarara to Bwindi took several scenic, bouncy, dusty hours, passing through rolling countryside close to the border with the Democratic Republic of the Congo. The locals grow tea, make bricks, and harvest crickets.



Private tea plantation in Uganda



Ugandans making bricks alongside the road.



Every year Ugandans build grasshopper catchers. The folded corrugated metal panels are built on ridges and get heated by the sun. Grasshoppers fly into the panels, slide down the grooves, and collect in baskets below the screens. Yum....protein.

After a three-hour drive on rough graded roads, we reached Bwindi to walk into the Impenetrable Forest, where we hoped to see Mountain Gorilla. Bwindi Impenetrable Forest National Park is a UNESCO World Heritage Site set in southwestern Uganda, in mountainous rainforest. It is home to just over half of the world's last surviving mountain gorilla population – perhaps only 700 remaining individuals. The remaining gorilla are in Rwanda to the southwest.

The origin of the Bwindi National Park and the relationship between the local population and the gorillas is interesting. For many years, the local farmers grew coffee on the hillsides and cut down the rainforest to clear the way to plant their crops. Gorillas love coffee beans and for years had come out of the rainforest to gather their favorite food. The locals would unfortunately kill the gorillas that crossed the ever-moving boundary between the forest and their coffee. The Ugandan government came up with a solution, as they saw Rwanda benefiting from tourist dollars brought into that country via Gorilla trekking. Bwindi National Park was established, the boundary was fixed, and the farmers were paid to stop growing coffee and plant tea. As gorillas do not like tea, they no longer left the rainforest to browse for coffee. The solution has worked. The gorilla population has grown from a couple of hundred to over 700, and everyone is “happy”. Except of course that the tea market is not as lucrative as the coffee was. To address this shift, many of the locals have been employed as trackers and guides for the gorilla treks in the Forest. This brings significant hard currency into the local population.



Bwindi Impenetrable Forest National Park.



Trackers Lodge, Bwindi Uganda is across the valley from the National Forest.



The Bwindi is comprised of steep slopes and rainforest. The pathway into the National Park is thick with trees, vines and flowers. Streams are crossed by narrow tree-trunk bridges. The trek into the rainforest is challenging and exciting. You start on the path after a brief session with the forest rangers. Trackers have scoped out the locations of several of the gorilla families. While some trekkers will have two to six-hour walks to find a family, we fortunately found a family within 45 minutes of departing the park headquarters.

Mountain gorilla families have been gradually introduced to humans and tolerate their presence. Visitors can interact with the gorillas (read observe) for a maximum of one hour. It is amazing to see their behavior and social interactions.



The gorilla family is comprised of 10 to 12 members with a single silverback, several next tier males, several females, four juveniles and a couple of babies. They roam as a group through the forest, foraging for leaves and flowers, climbing trees and resting amongst the leaves. The adults are pretty quiet and do their own thing.



The juveniles race up and down in the trees and yell at each other as they climb.

Baby gorillas love climbing trees too, but mostly...



.... like hanging out with their mothers.

After our return from the Gorilla trek we had an uninvited guest in our hotel room, helping himself to a banana from our fruit basket. The white bearded monkey scampered across tables and the mosquito net on the bed to reach the bowl. He then peeled the banana, dropped the peel and ate the banana on the windowsill.



So long Uganda....



...Hello Tanzania.

Editor's Note: Part two of Cynthia and Dan's Africa Adventure will continue in the next edition of the Pacific Petroleum Geology Newsletter.

The Ocean on Top of Our Mountain: Geology, Hydrocarbons and Geoscience Outreach in the Indian Subcontinent

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It's been a long time coming: the intersection of my research and hydrocarbons! But as a stratigraphic paleontologist who has had the good fortune to travel widely in pursuit of trilobites and other marine invertebrates, in September 2018 I finally attended the GeoIndia conference in New Delhi, a meeting sponsored by the Indian chapter of APG (Association of Petroleum Geologists India, an AAPG affiliated society). My invitation from Manish Shukla, now Secretary of that APG chapter, related to shared interests in Neoproterozoic succession on the northern part of the Indian craton.

I've worked on Indian geology for over 30 years but almost all of my efforts have concerned the stratigraphy and tectonics of the Himalaya. In essence, I have been writing an extended answer to a question that was posed on the last exam of my undergraduate career— an essay entitled “An explanation for the crinoids on the top of Mt Everest” (which have, incidentally, since turned out not to be Permian crinoids but Ordovician trilobites)!



Everest (also known as Chungmalungma or Sagarmatha) from the north side taken during our fieldwork. The bulk of the mountain including the obvious “yellow band” is Cambrian or Neoproterozoic, but the summit pyramid is middle Ordovician limestone – with trilobites!

The Himalaya are a magnificent range in which to work and I've had many adventures, but they are not an optimal place for hydrocarbon resources. However, a series of recent controversies about the original relationship of the Himalayan margin to the Indian shield has led me to explore the subsurface record in the Panjab and Indus foreland basins, and in outcrop in the Salt Range of Pakistan and in Rajasthan in India. In the basins we are talking about core drilled through sequences rich in evaporites and known gas reserves, about which our group published a paper last year in the Geological Society of America Bulletin (Hughes et al. 2019) that showed the continuity of these sequences northwards into the Himalayan orogen. We are also fascinated by the older Neoproterozoic successions on the craton and by cores made by the Indian Oil and Natural Gas Corporation (ONGC), that are the key to some fundamental stratigraphic tussles. It is amazing to work in a place where the stratigraphic ages of thick rock sequences are still debated in print with the alternatives differing by as much as 1000 Ma! There aren't many places left on Earth where the debates remain so fundamental.

This interest took me to the APG GeoIndia conference in 2018. After I arrived in India, a brief online look at photos of previous meeting filled me with horror! GeoIndia was clearly a smart blue jacket and tie, khaki pants and polished shoes event! But being a typical scruffy academic I had to borrow the jacket and shoes from my friend, the Chair of the Geology Dept. of Delhi University, so as to be suitably dressed! At the meeting I presented our work to a great response and also interacted extensively with some of the student groups, including judging a fabulous debate on "Are the energy resources of India sufficient to fuel its economic growth?" amongst the immaculately turned out students. Good thing I left my birkenstocks at home! A job in the petroleum industry is highly prized in India, and both the standard and poise of the students was extraordinary. The future certainly is in good hands, and it is great to see people like Manish working hard to ensure this.



Manish Shukla, Secretary, India Chapter of the Association of Petroleum Geologists, and Nigel Hughes, at GeoIndia in New Delhi, September 2018



India's next generation of petroleum geologists: finalist participants in the Indian APG Student Debate, GeoIndia, 2018, New Delhi. Note the gender representation! A total of 59 students participated in the meeting.



Samriddhi Misra from the Department of Geology, MS University Vadodara wins the APG National Debate. The certificate is being presented by former APG President, M. Ayyadurai.

Geoscience education in the India subcontinent has been an interest of mine ever since I spent 8 months in India learning a regional language, Bengali, in the 1980's. The great thing about geology, of course, is that its appeal and relevance spans the full breadth of society. Indeed, it's the rural people who have the most natural experience of it. During that time, I was in rural West Bengal in eastern India, where petrified wood is a common occurrence. It's common but still a strange substance to local people, because it looks exactly like wood but is made of stone. And for that reason there are many stories from different traditions (Hindu, Muslim, or tribal) to explain its occurrence. Hinduism, for example, explains the fossil wood as the bones of a demon killed by one of the hero's in the great Mahabharat epic. These explanations are meaningful to local communities and are valid in their own terms, but they are not what the Earth itself says about our origins.

Accordingly, I got together with a group of friends to write a book about a village girl, Monisha, and her adventures to find a natural explanation of this strange substance, which was published in association the Geological Society of India. We printed 4000 copies of monishar pathorer bon (Monisha and the Stone Forest) and I took two Honors students from UC Riverside, both women, one Hindu and one Muslim, to do outreach programs in local schools and madrasehs reaching about 2000 students across 20 institutions. The program was a notable success and ultimately the story was dramatized by a travelling theater company and toured widely in West Bengal. Several hundred copies of the book were also sent to Bangladesh and distributed by BRAC – the country's premier NGO. More information is available on YouTube (<https://www.youtube.com/watch?v=ggw0RCj2oHo&t=36s>) and from our article on the project in the Journal of Geoscience Education (Hughes et al., 2015).

The success of that project paves the way for its successor! One of the things we learned during Monisha was just how challenging it is for many rural children to read even to the level of a children's book. This reflect an overall local literacy rate of 77% among men, and 64% among women in rural Bengal. But the challenges of reading are, of course, no reflection on the children's capacity to comprehend the world around them. So, the key question becomes how can we effectively transmit the critical information that geology tells us about our place in the history of the Earth to kids whose reading ability is hampered or even non-existent?

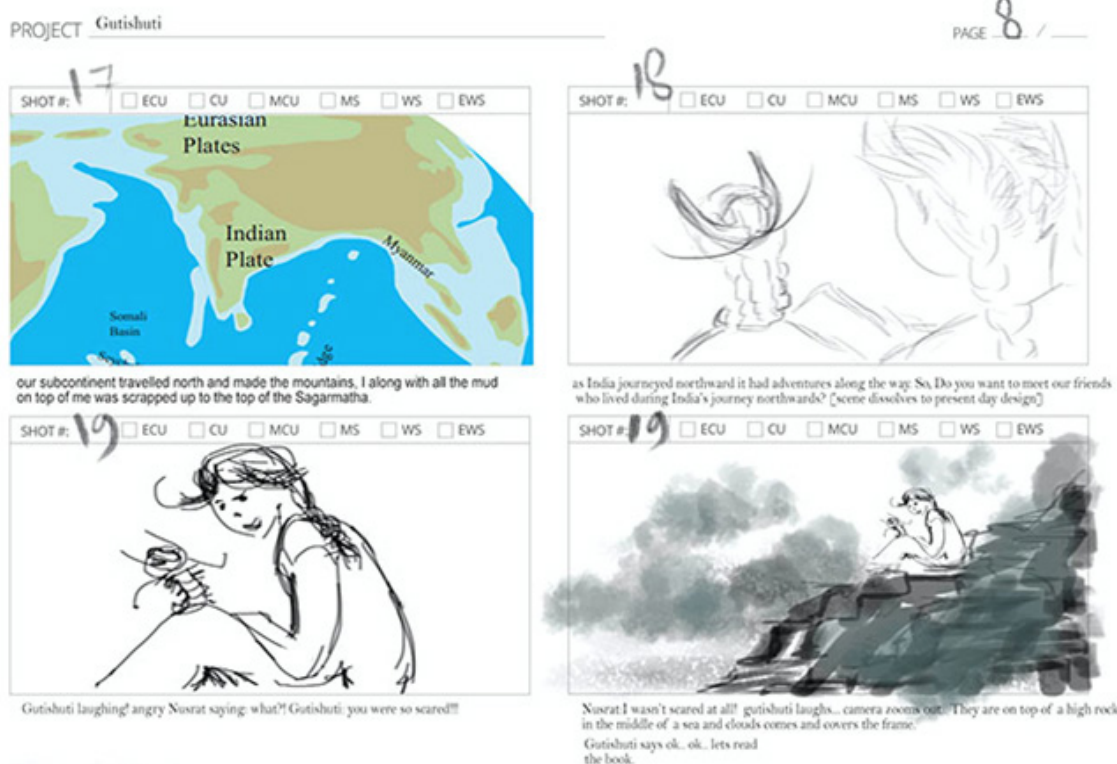


Taini Adhikary and Snigdha Morshed from the University Honors program, University of California, Riverside presenting the Monisha story in Bengali at Sishu Tirtha, near Santiniketan, India, 2013.

In trying to answer this question I looked back to my own childhood. How did I get into geology? Visiting a friend down our street one Saturday morning in 1973 I found his father watching an early TV documentary about plate tectonics. It must have been one of the first presentations to the public of those revolutionary ideas. In my mind's eye I can still see the animated picture of continents colliding and mountains rising, and of Gondwana's breakup and India's migration for its Himalayan rendezvous with Asia. The cartoon graphics instantly communicated the essential and transformative information to me as a nine-year-old boy. We can communicate to the children of the subcontinent in just the same way.

I am a trilobite guy, and trilobites sit at the top of Everest (or Sagarmatha, as it's known on the Indian side of the Himalaya). So, our next outreach project is to build a story about an enrolled trilobite collected from the top Everest who comes back to life in the hands of a village girl, and who takes the girl on a geological adventure to understand how the floor of a southern hemisphere ocean can have become the top of the world's highest mountain! To tell this story effectively we will use the instrument that is available now across villages spanning the entire subcontinent – the cell phone. The animated series is to be called “Gutishuti and the Stack of Stories” (Gutishuti being “the one who is rolled up”) and will consist of ~ 12 episodes that will be freely available to children all over the subcontinent, and in local languages, on the web. The potential reach is extraordinary – one cell phone can potentially be viewed by tens of persons, none of whom need to be able to read to comprehend the story, and to know that the Earth has a history that we can discover for ourselves using a rational approach to the world around us! A potential audience of over a billion awaits us!

Who are “we”? Along with Manish and the Indian APG, are my friend Sekhar Mukherjee, director of the National Institute of Design (NID) in Vijayawada in south India, talented animator and scientist Trisha Banerjee, and a group of super keen and innovative animation students from the NID.



A page of storyboard for the promotional “teaser” for our planned animated series concerning a village girl and her adventures with a trilobite to understand India’s epic journey as a subcontinent. This is the work of animator Trisha Banerjee.

To make the whole series is a major undertaking that will involve a team of animators in India working for many months. At the moment we’re making what in India is called a “teaser” (here termed a “promo” or “sizzle reel”) with funding from the Geological Society of America and the Paleontological Society. The next task is to line up the funding that can make the whole series happen. I am hoping that we may be able to approach the AAPG foundation, so please keep watching this space!

Hughes N.C., Ghosh P. and Bhattacharya D. 2015. The monishar pathorer bon (Monisha and the Stone Forest) book project: novel educational outreach to children in rural communities, eastern Indian subcontinent. *Journal of Geoscience Education* **63**:18-28.

Hughes N.C., Myrow P.M, Ghazi S., McKenzie N.R., Stockli, D.F., and DiPietro, J.A 2019. Cambrian geology of the Salt Range of Pakistan: linking the Himalayan margin to the Indian craton. *Geological Society of America Bulletin* **131**:1095-1114 doi.org/10.1130/B35092.1

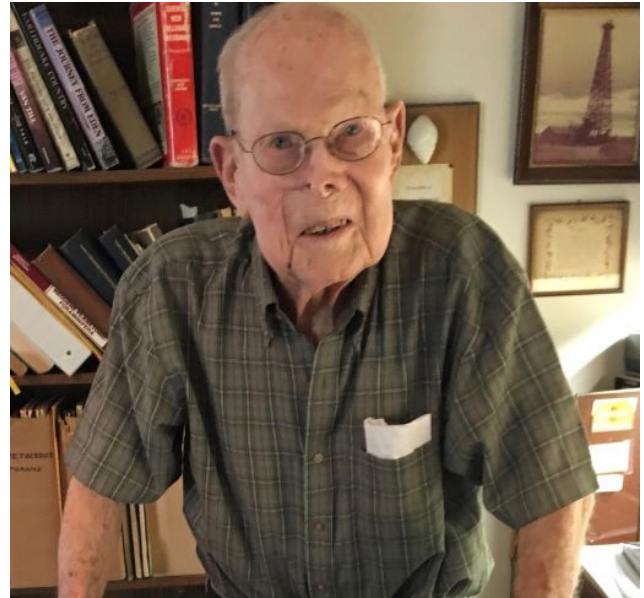


From the Bakersfield *Californian*, May 14, 2020

ALVIN ALMGREN

February 23, 1920 - May 10, 2020

Alvin Almgren passed away at home on May 10, 2020, at the age of 100. Al was born in Bakersfield, California on February 23, 1920. His father, Claus Gustav "C.G." Almgren was an immigrant from Sweden who moved to Bakersfield in 1905. His mother, Anna Almgren was the daughter of Orlander and Josephine Olson, also immigrants from Sweden, who moved to Bakersfield in 1910. Alvin attended local schools and graduated from UCLA in 1944 with a B.A. degree in geology. This was followed by military service in the Army in the European theater during VIM/ II, 1944-1946. After his military service, Al returned to Bakersfield where he began a career in the petroleum industry that lasted over 70 years. He was employed by the Superior Oil Co. as a micro-paleontologist from 1946-1959, and by the Union Oil Co. as a micro-paleontologist and geologist from 1959-1986. From 1986-2018, until the age of 98, he continued working as a consulting micro-paleontologist and geologist for the petroleum industry. During his career, he published thirteen paleontological and geological papers on fossil foraminifera and the stratigraphy of sediments in the San Joaquin and Sacramento Valleys of California. For over 65 years he was a member of the American Association of Petroleum Geologists. He was a past president of the Pacific Section Society of Economic Paleontologists and Mineralogists (1962) and elected to Honorary Membership in that same society in 1979. He was a past president of the San Joaquin Geological Society, received the President's Award of the Pacific Section American Association of Petroleum Geologists in 2010, and Honorary Life Membership in that association in 2013. On June 29, 1941, Al married Erva Bernice White, also a native of Bakersfield. They were blessed with three fine sons, Gerald, Darrell, (who passed away in 2014), and John. They enjoyed almost 70 years of happy married life until Erva's passing in 2010. Alvin's desire in life was to exemplify the teachings of Christ. He first attended the Bakersfield First Church of the Nazarene at two weeks of age with his parents and brothers, accepted Christ as his Savior at the age of eight, and later became a member of the church. He was very active in the church throughout his lifetime, serving in various capacities of leadership for many years including church board member, Sunday School



Al Almgren at 97. Photo by Larry Knauer.

Superintendent, and building committee member. Al, his wife Erva, and their three sons were active and supportive members of the church and its cause to present the gospel of Christ. In recent months Al still attended church when possible and last attended on his 100th birthday, February 23, 2020. He was a true man of God, with integrity and humility, and will be missed by all who knew him. Alvin is survived by his two sons, Gerald Almgren and wife Betty of Bakersfield, John Almgren of Bakersfield; his sister-in-law, Wanda Almgren of San Diego; grandchildren, Julie Gentry of Bakersfield, Teena Lawson of Harrison, Montana, Darrell S. Almgren of San Bernadino; six great-grandchildren, four great-great-grandchildren and several nieces including Myrna Almgren May, Sharon Garner, Donna Dullum, LaVerne Andress, and Cheryl Almgren Taylor. Visitation for Alvin will be held at Greenlawn Northeast on Friday, May 15, 2020, from 4:00- 8:00 pm and a graveside service will be held at the same location Saturday, May 16, 2020, at 10:00 am. In lieu of flowers, those wishing to remember Alvin can donate to the Bakersfield First Church of the Nazarene or a charity of their choice. Due to the current health restrictions, a memorial service for Alvin will be held at a later date.

From the Bakersfield *Californian*, May 14, 2020

ROBERT REX MORRISON

April 8, 1930 - June 29, 2020

Robert Morrison, "Bob", was born in Los Angeles to Effie Mae (nee Dewitt) and Robert Boyd Morrison, and passed away at the age of 90 at Hoag Hospital in Newport Beach due to complications from Parkinson's disease.

Growing up in Westwood, Bob earned distinction as an Eagle Scout in 1945 and went on to graduate from University High School in 1947. He later obtained his BS in geology from UCLA in 1951 where he was a member of the Theta Delta Chi fraternity.

Shortly after graduation Bob enlisted in the Navy and received his commission from the Officer Candidate School in Newport, Rhode Island. He was assigned to a ship in the Pacific during the Korean War and was later trained at the National Photographic Interpretation Center in Washington, D.C. where he met his bride-to-be, Phyllis Reardon of Alexandria, Virginia. In 1954 Bob and Phyllis were married in Honolulu where he was stationed.

After his service, Bob joined The Texas Company as a geologist and he and his bride moved to Casper, Wyoming where their first daughter Patty was born. Not done with his education, the young family returned to Westwood so that he could get his master's degree in geology from UCLA. Shortly thereafter the family moved to Ojai where his second daughter Suzy was born, and in 1962 the family moved to Bakersfield as Bob began with Richfield Oil Company. On the very day in 1966 that Richfield and Atlantic merged, Bob began his career with Occidental Petroleum (Oxy). In 1980 Bob and Phyllis left Bakersfield so that he could begin a variety of assignments as an overseas manager for Oxy. These included Mendoza, Argentina; Quito, Ecuador; Jakarta, Indonesia; and two separate stints in Buenos Aires, Argentina where he mastered Porteño Spanish. Throughout his career he was also an active member of the American Association of Petroleum Geologists.

Bob was very dedicated to his family, friends, skiing, and sailing. Sailing was his passion and in 1963 he



Bob on the Duffy in Newport Bay. Photo by Laura Bazeley.

built a wooden El Toro sailboat in his garage. Later he would sail a Lido 14, a Cal 25, and a Columbia 50 (dearly named "La Otra Mujer" - the other woman) to various southern Channel Islands, and numerous Newport Beach to Ensenada races. Bob was also a fitness enthusiast and a proud member of the Newport Mesa Orange County YMCA for the past 25 years.

Upon his retirement, Bob and Phyllis built their dream house on Balboa Island in Newport Beach which allowed him to really focus on sailing and the wonders of life on the Southern California coast.

Bob is survived by his wife Phyllis, daughter Suzanne Vose, son-in-law Mark Vose, and their two children Ashby and Jackson who reside in LA. Bob is predeceased by his daughter Patricia Oliver who passed from cancer in 2018. Bob also leaves behind Patty's husband Jim Oliver and their twins, Robert and Juliette all of Roseville, California.

A celebration of life will be held in Bakersfield in the fall depending on the status of the pandemic.

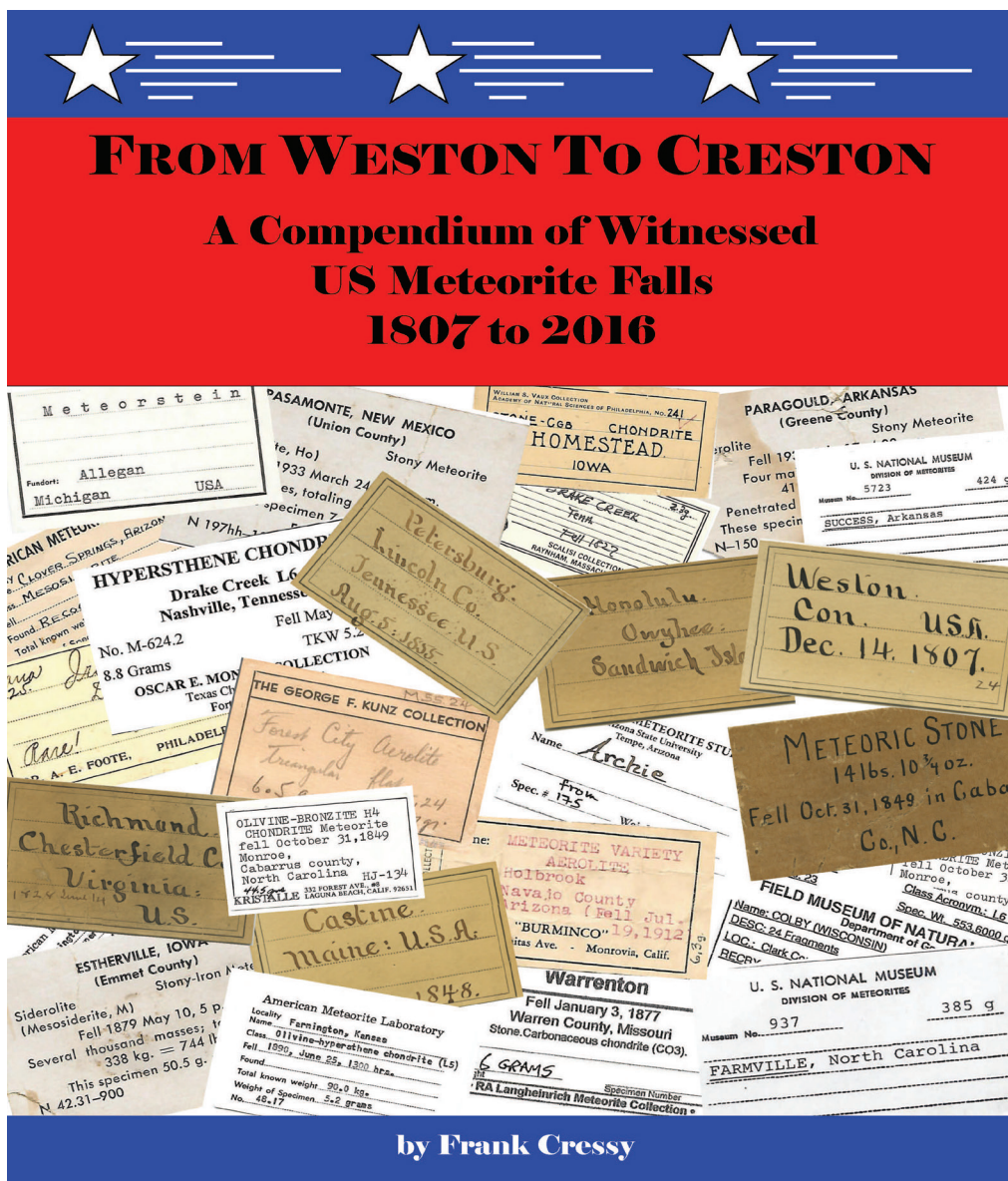
New Publication

"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.

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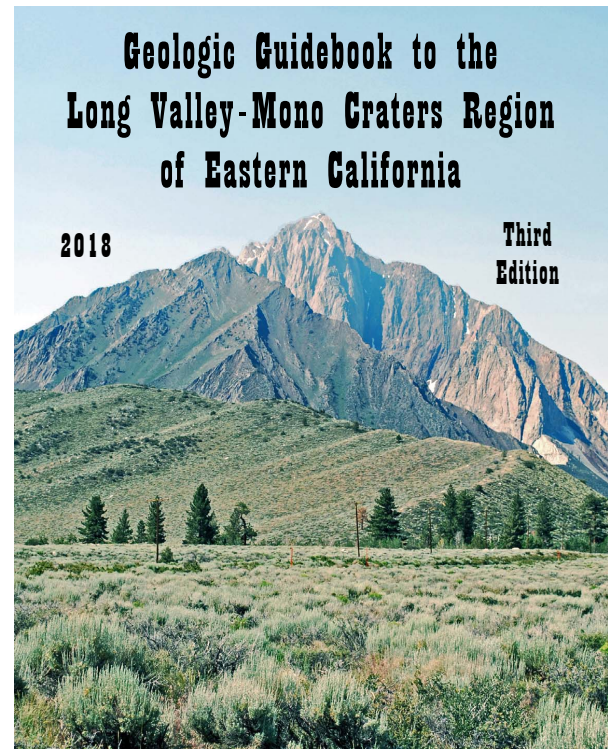
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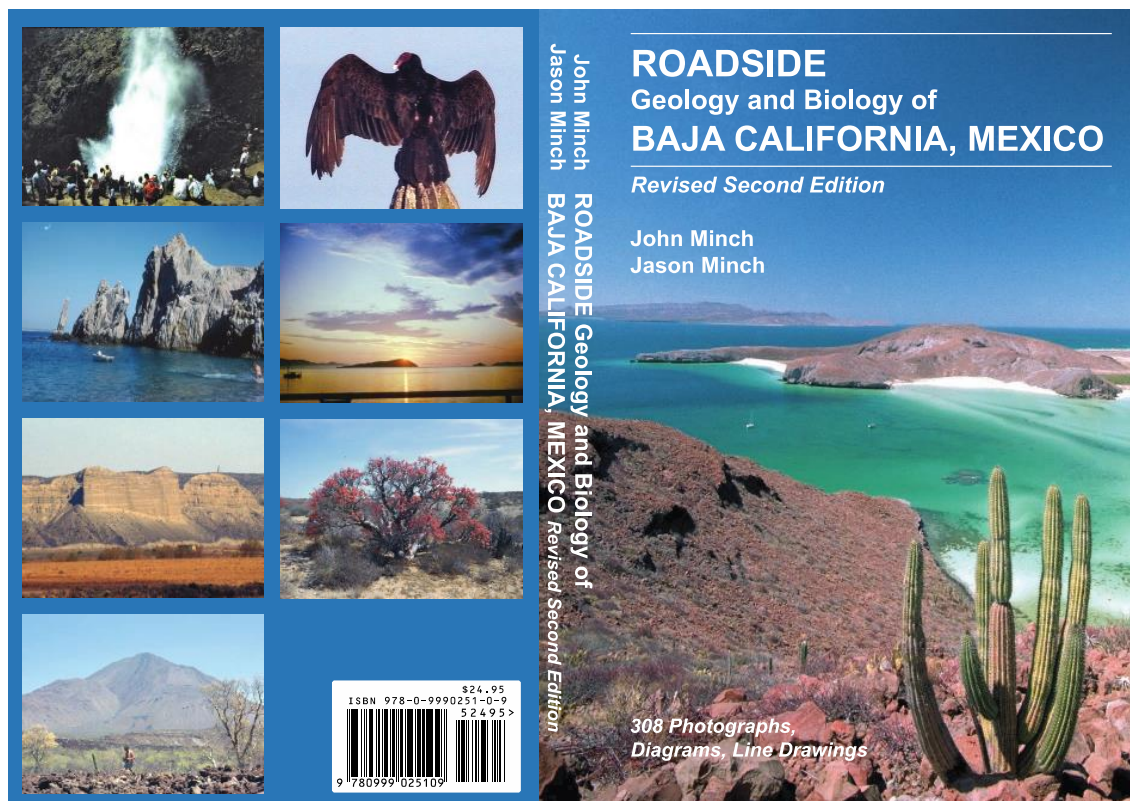
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Petroleum Geology of the Tar Creek Topatopa Area of the Sespe Oil Field

Excerpts from the *Production Limit Update and Aquifer Exemption Request for the Basal Sespe Formation in the Tar Creek Topatopa Area of the Sespe Oilfield*

Editor's Note: Aquifer Exemptions are public documents available for viewing and downloading from the CalGEM website (<https://www.conservation.ca.gov/calgem/Pages/Aquifer-Exemptions-Status.aspx#sespe>). Aquifer exemption applications contain a wealth of new geologic and reservoir information much of which has never been presented at technical conferences or in journals. The Sespe Oil Field discussion below is reproduced from Section 4.0 of the aquifer exemption application and is edited for clarity and conciseness. Omitted text is indicated by ellipsis points. Figures are renumbered to match the edited discussion. The application was submitted to DOGGR in October 2016. Documentation of EPA approval is not on the CalGEM web site. The Sespe Field is located about 6 miles north of Fillmore in Ventura Basin.

4.0 Aquifer/Zone Characterization

4.1 Sespe Formation – Tar Creek Topatopa Area of the Sespe Field

... Oil wells in the study area produce from the Basal Sespe Formation and the younger overlying Rincon and Vaqueros Formations, and the older underlying Coldwater Formations, and the older underlying Coldwater Formation. ... Figure 1 identifies wells that are Rincon and Vaqueros Formation completions.

Oil production began as early as 1887 in the Tar Creek-Topatopa area of the Sespe field where production of the Rincon and Vaqueros Formations which outcrop in the southeastern portion of the study area began as early as 1887 with production of the Upper Sespe in 1891 and the Middle and Basal Sespe Formations in 1938 and 1942, respectively, and the Coldwater Formation in 1966. There are no non-hydrocarbon-bearing formations in the oilfield. ... Figure 2 presents a cumulative oil production bubble map for the Basal Sespe Formation in the study area outside the current exempt aquifer boundary.

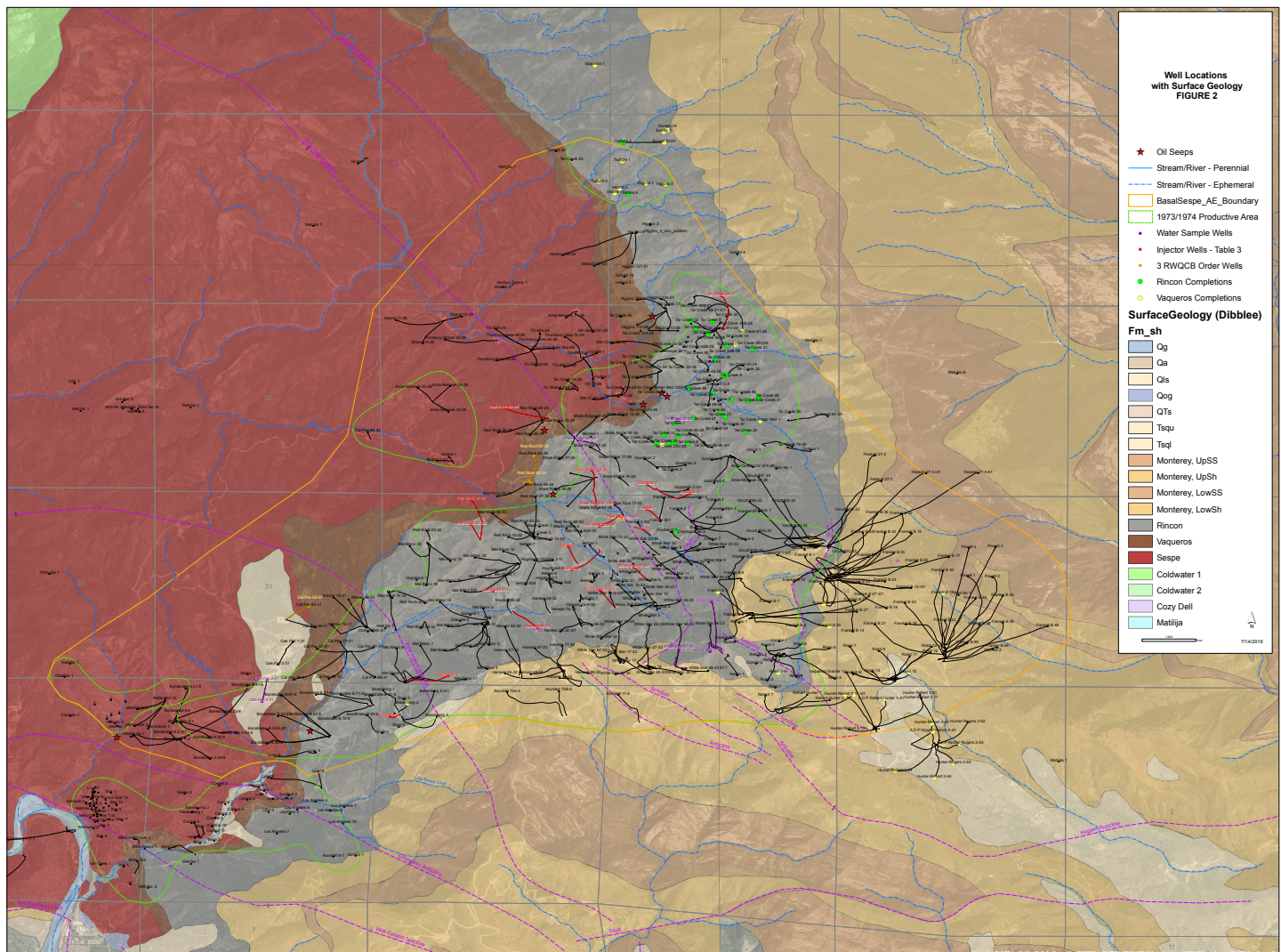


Figure 1. Surface Geology Map

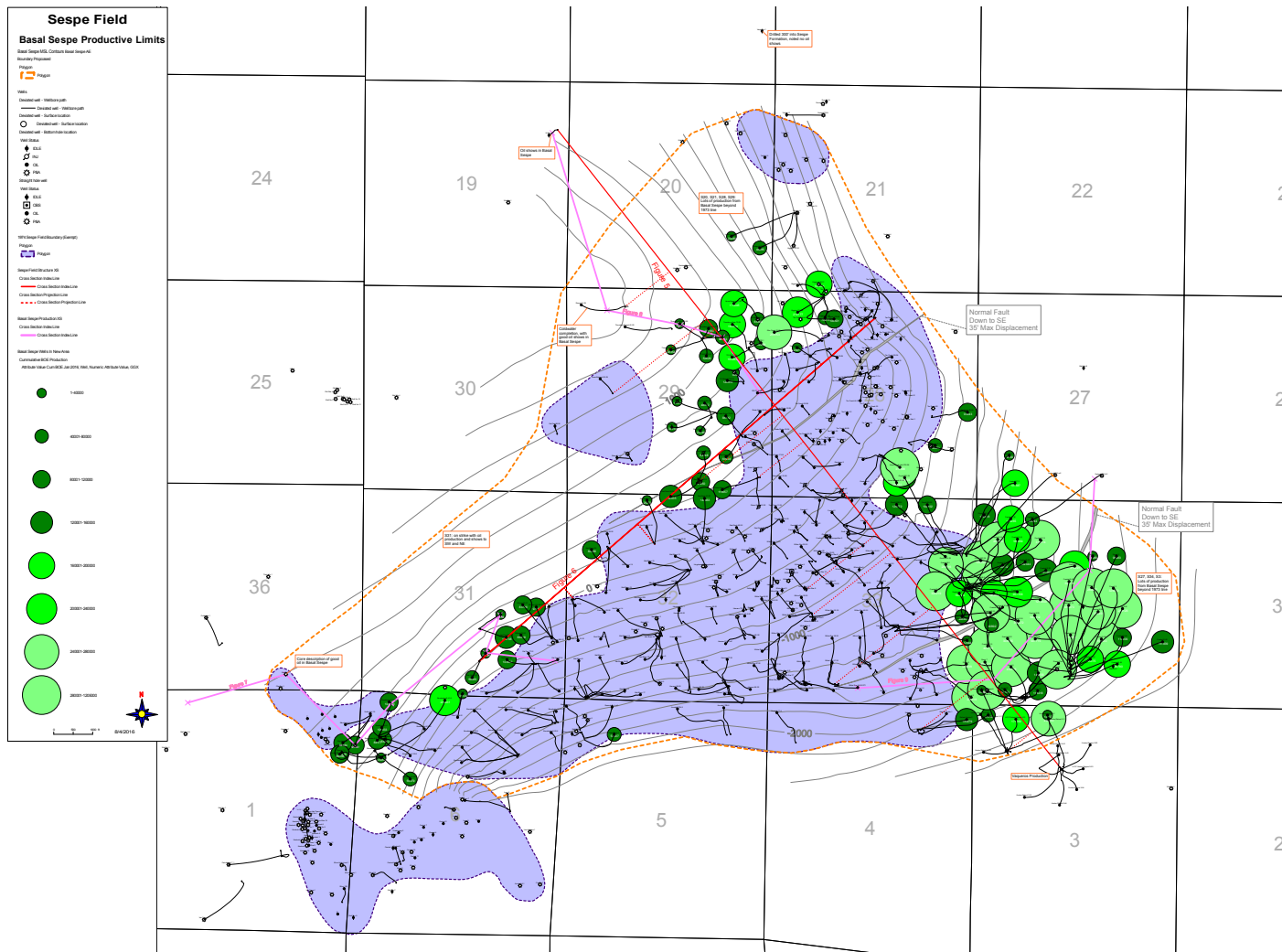


Figure 2. Basal Sespe Cumulative Production Map

Geologic structural features within the study area include a northwest to southeast trending anticlinal feature that plunges to the southeast resulting in southeasterly dipping formations along the anticline axis (Figure 2). The non-marine bedded sandstone with interbedded claystone of the Sespe Formation outcrops at the surface throughout the northwest portion of the study area with the younger Vaqueros Sandstone and Rincon Shale Formations outcropping to the southeast. The surface geology of the surrounding area is shown on Figure 1. Figure 2 maps the structural contours on top of the Basal Sespe Formation showing the southeasterly plunging Topatopa anticline and the southeasterly to easterly dipping beds of the Sespe Formation across the study area with two faults mapped trending along strike within the Sespe Formation in the area. Faulting within the Sespe Formation is shown on Figure 2 and is identified from offset within the Sespe Formation identified in geophysical logs. Surface geology shown on Figure 1 does not identify the presence of the fault located within Sections 28 and 29 of T5N, R19W suggesting this fault does not continue in the overlying formations. The other fault that is located down dip in Sections 33 and 34 of T5N, R19W may extend to surface into the overlying Rincon Formation as evidenced by surface mapping of faulting in that area (see Figure 1). Figure 3 presents a NW-SE cross-section through the study area and illustrates the southeasterly dip of the geologic formations in the project area. Figure 4 presents a SW-

NE cross-section along strike through the study area. Figure 2 shows the surface expression of the cross-section lines through the project area (note that wells are projected onto the line where shown dashed on Figure 2). Three cross-sections Figures 5 through 7 present production perforations within the Basal Sespe Formation through the study area where the production limits have expanded. Figure 8 presents a NW-SE cross-section through the western portion of the Sespe Field where the updated production limit boundary is projected along strike. Access in this area is limited by the topographic relief precluding production. These cross-sections include mud logs and core analyses that demonstrate shallow oil deposits overlying the production zones of the Basal Sespe Formation.

4.2 Oilfield Reservoir Containment and Details of Shallow Driller's Logs and Mudlogs

Hydrocarbons are distributed throughout the oilfield reservoir, both vertically and aerially. There are no non-hydrocarbon bearing formations in the oilfield. Pre-1973 oil well completions used in the MOA identify oil production at all levels of the reservoir that are being developed. Cross-sections shown on Figures 3 through 8 demonstrate the presence of oil production intervals for the areas that are proposed for expansion of the field's production limits.

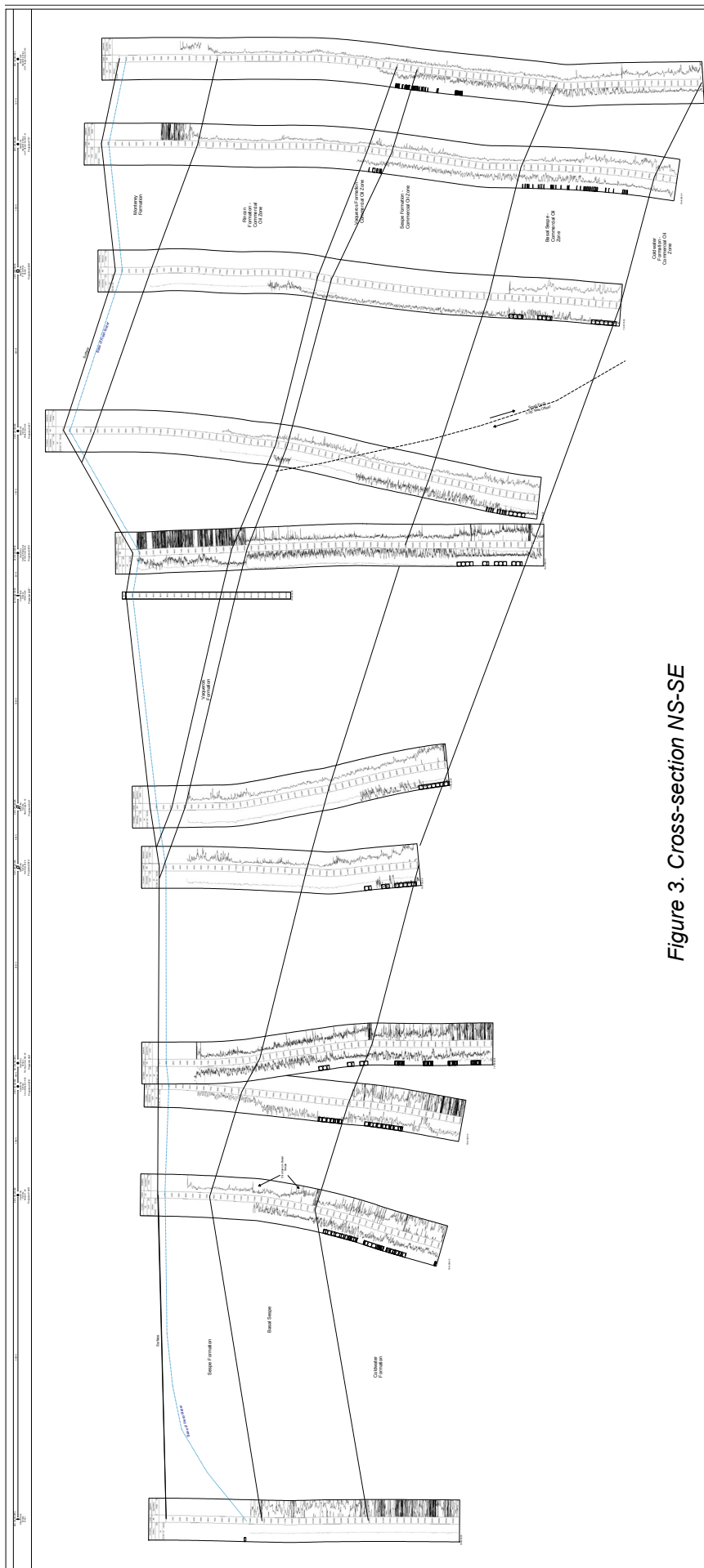


Figure 3. Cross-section NS-SE

A survey of casing pressures for wells completed in the Basal Sespe Formation was completed in June 2016 in the Tar Creek Topatopa area of the field. Pressures recorded during the survey are presented and contoured on Figure 9. The figure demonstrates the decreased pressures measured along the axis of the anticlinal structural features and in the center of the well development of the field. This pressure gradient is the mechanism that contains fluids (both oil and water) in the produced reservoirs to the area of the proposed Aquifer Exemption. Fluid flows from areas of higher reservoir pressure near the edges of the proposed boundary to areas of low pressure within the center of the field.

Very low formation permeability is the primary barrier to vertical migration of fluids, both upward and downward. Core data from five wells (White Star 14-33, Tar Creek 44-28, Cal Pac 87-31, Mel Blanc 525, and Thornbury Strand 42-29) indicate average air permeability in the Basal Sespe of 4.1 millidarcy (md), and average porosity of 7.9%; in the Coldwater, average air permeability is <1 md and porosity is 1.4%. Relative permeability data in well Mel Blanc 525 suggests permeability to water is an order of magnitude lower than air permeability data. Similar rates of penetration (ROP) and lithologic descriptions in mudlogs through the entire Sespe formation (including the Basal Sespe, see cross-section Figures 3 through 8) indicate that the upper parts of the Sespe formation are similarly low permeability. Shale breaks within the Sespe formation also recorded on mudlogs provide lithologic barriers to upward flow. The vertical distance from the top perforation in Injection Well Red Rock 68-29 to the base of active oil field water supply well White Star 6 is approximately 550 feet as shown on Figure 3. The cross-sections included as Figures 3 through 8 show the vertical distance from the Basal Sespe perforated intervals to the projected base of fresh water (BFW) for the field with distances ranging from 2,000 feet to 6,700 feet below BFW. . . .

To further validate oil and gas presence in the study area, available geophysical logs, mudlogs, and driller's logs were reviewed for evidence of oil and gas shows at shallow depths. Figure 10 identifies wells where logs are available yielding evidence of shallow hydrocarbons. Shallow oil and gas shows at depths less than 100 ft were identified in all three outcropping formations (Sespe Formation, Vaqueros Sandstone, and Rincon Shale) in the study area. Table 1 tabulates the information gleaned from the mudlogs and driller's logs available on the DOGGR website.

Naturally occurring surface oil seeps are observed in the area and where these have been mapped they are shown on Figure 1.

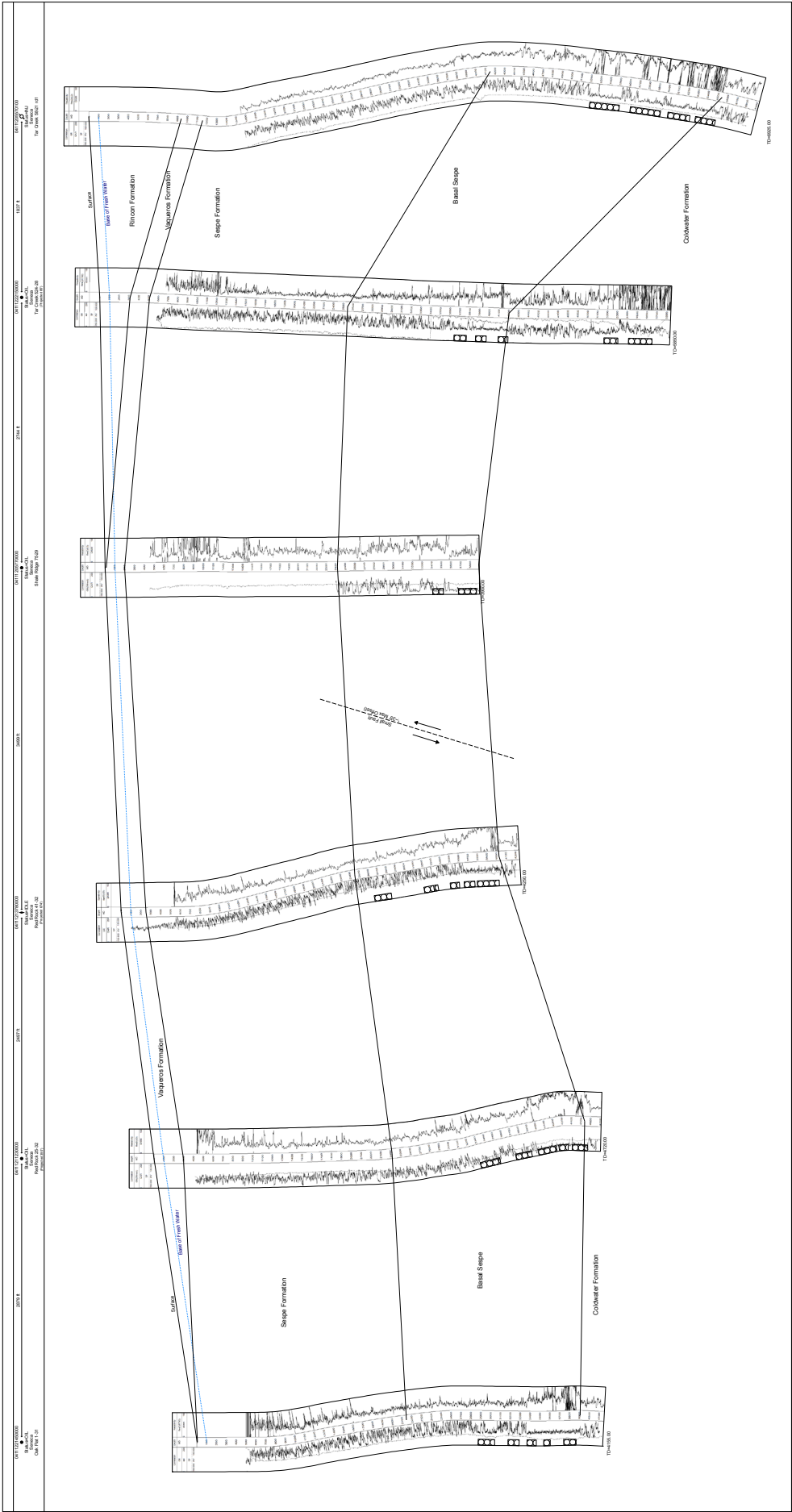


Figure 4. Cross-section SW-NE

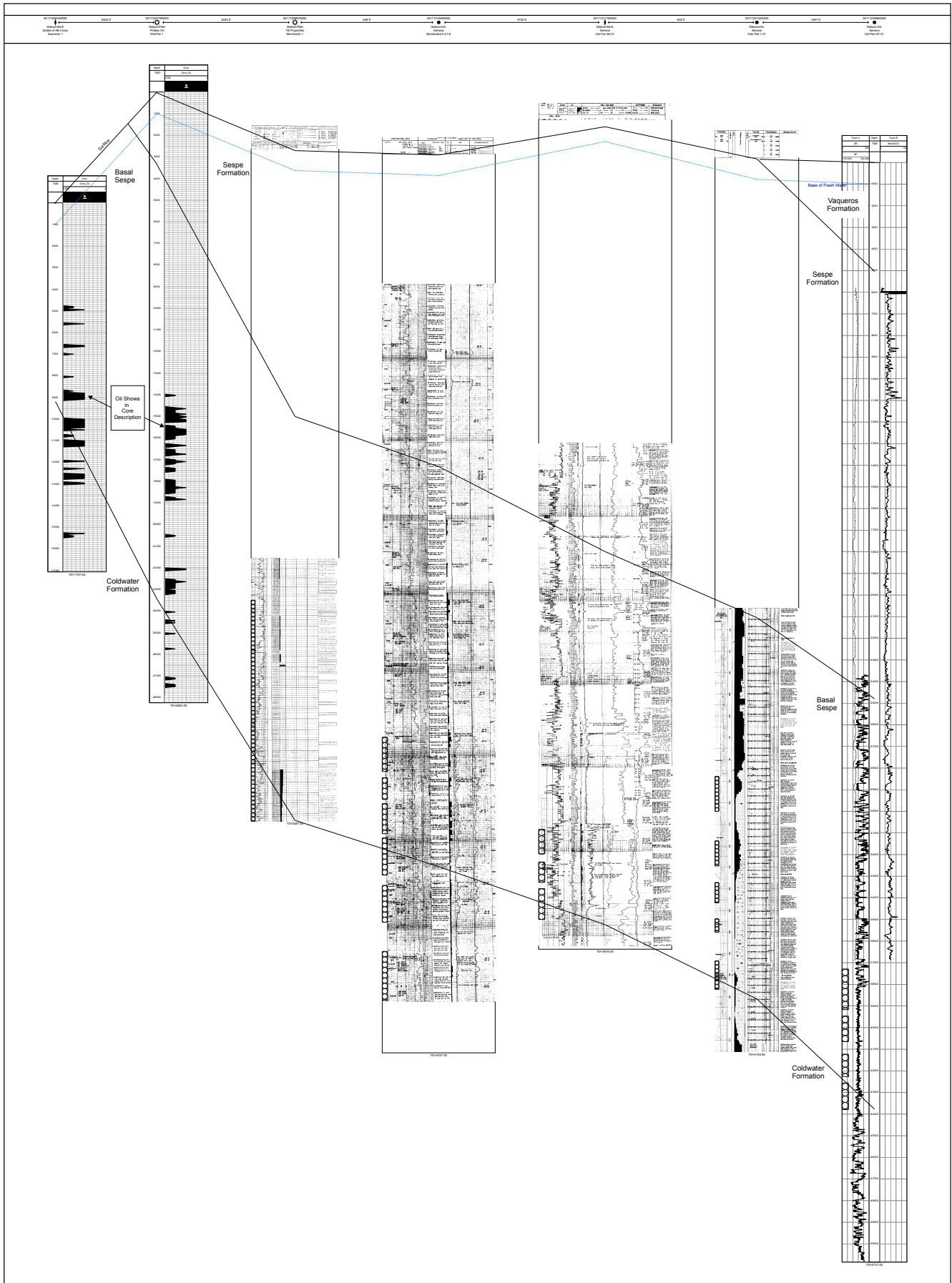


Figure 5. Cross-section A-A'

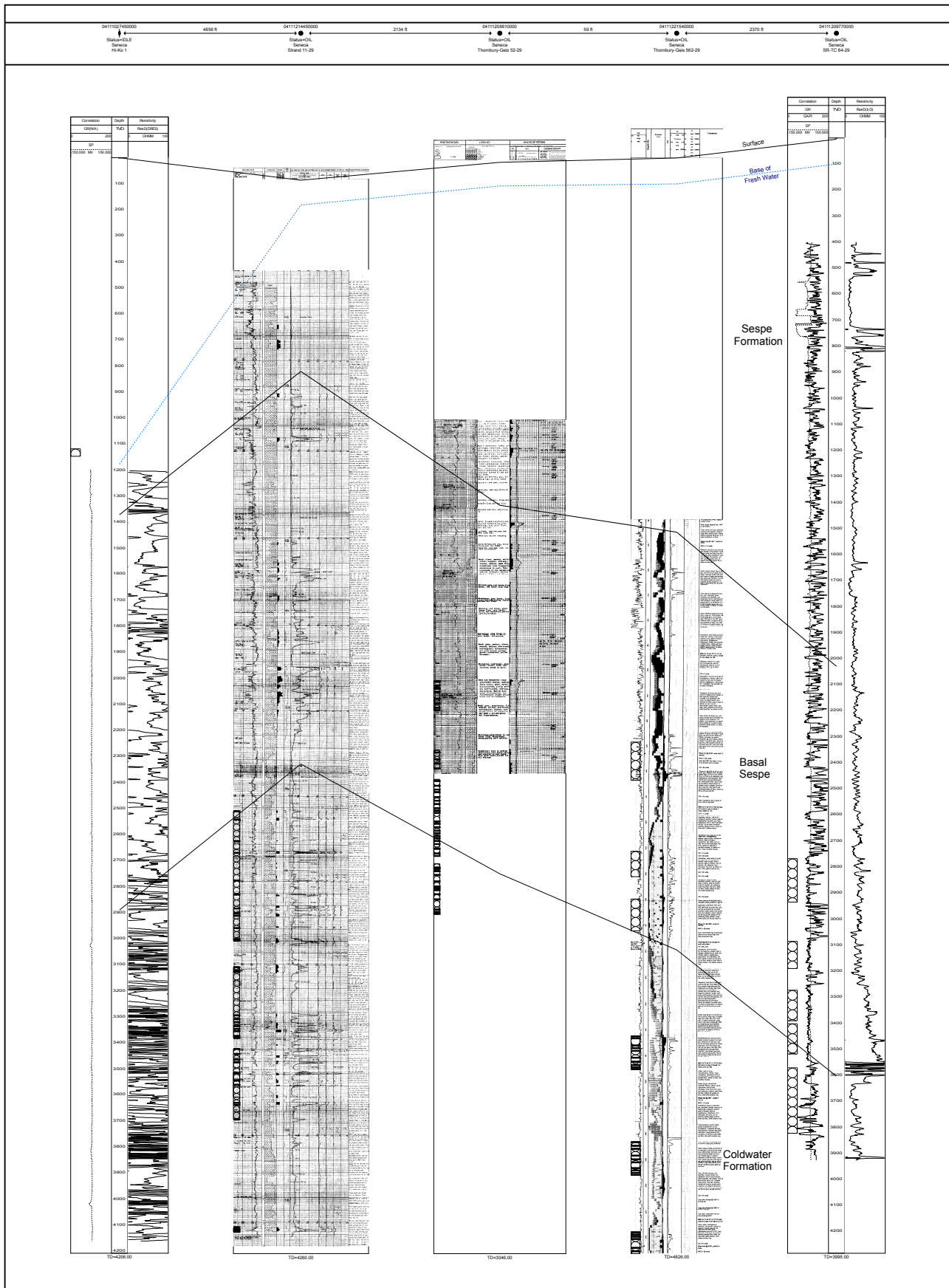


Figure 6. Cross-section B-B'

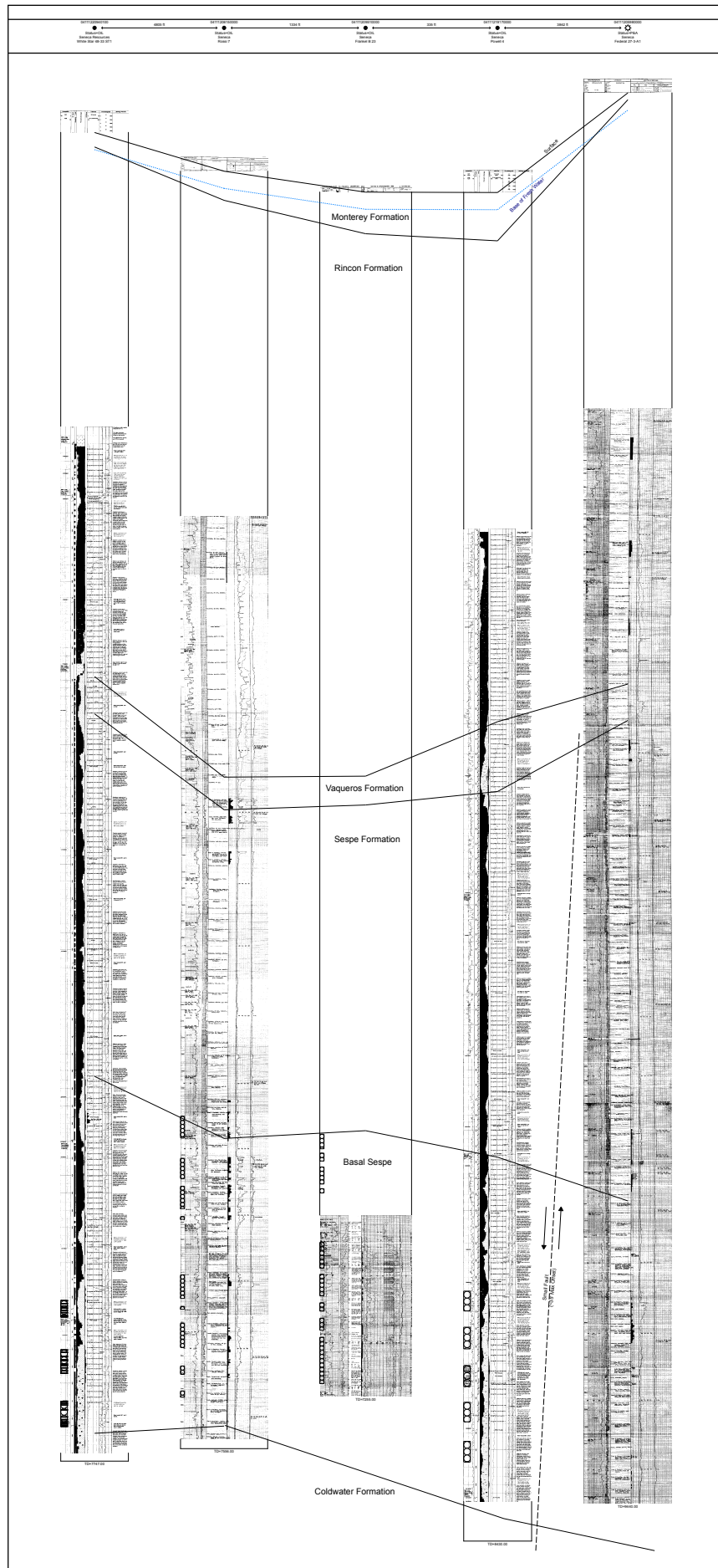


Figure 7. Cross-section C-C'

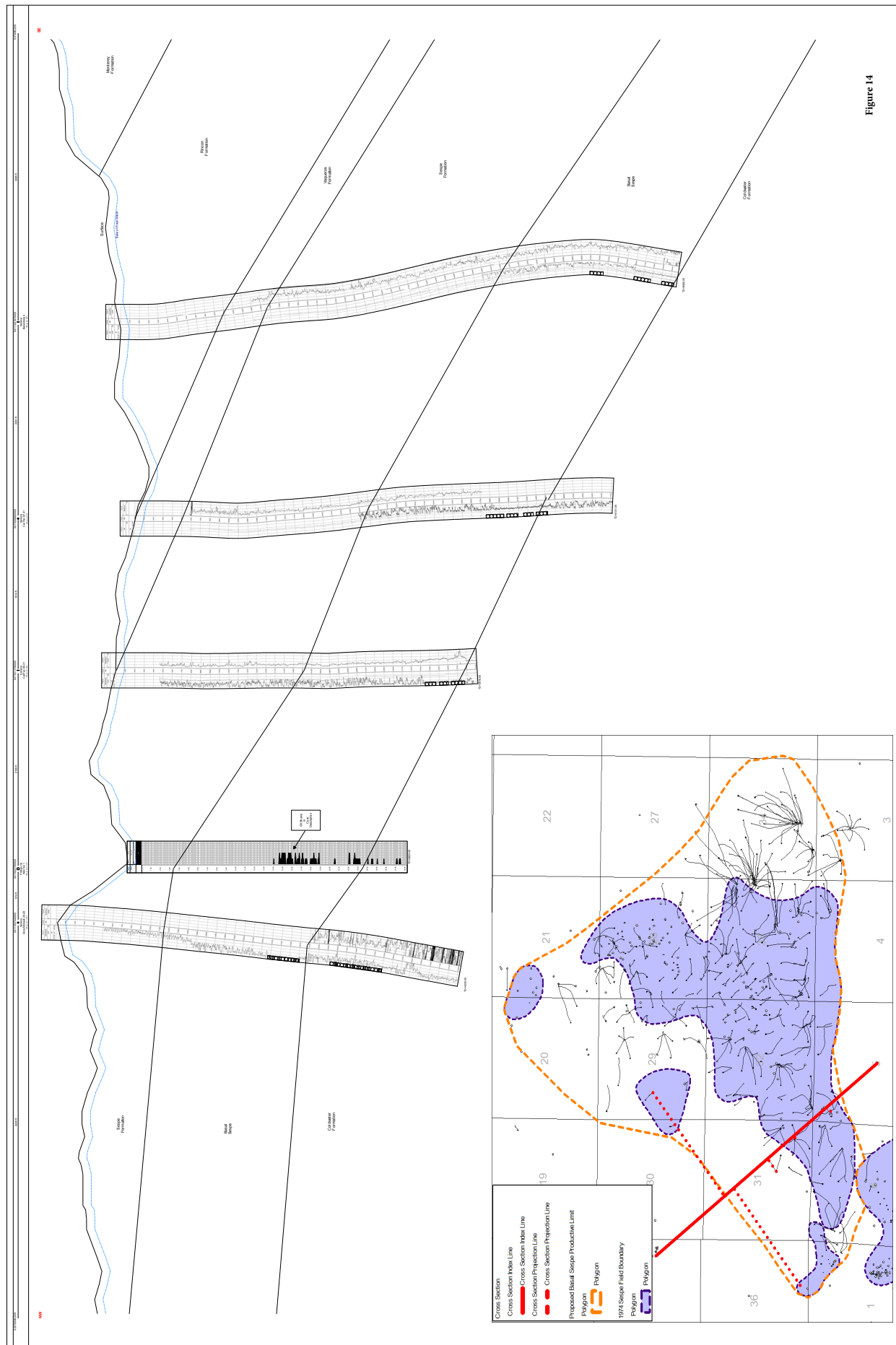


Figure 8. Cross-section NW-SE

Tar Creek Topatopa Area, Sespe Oil Field

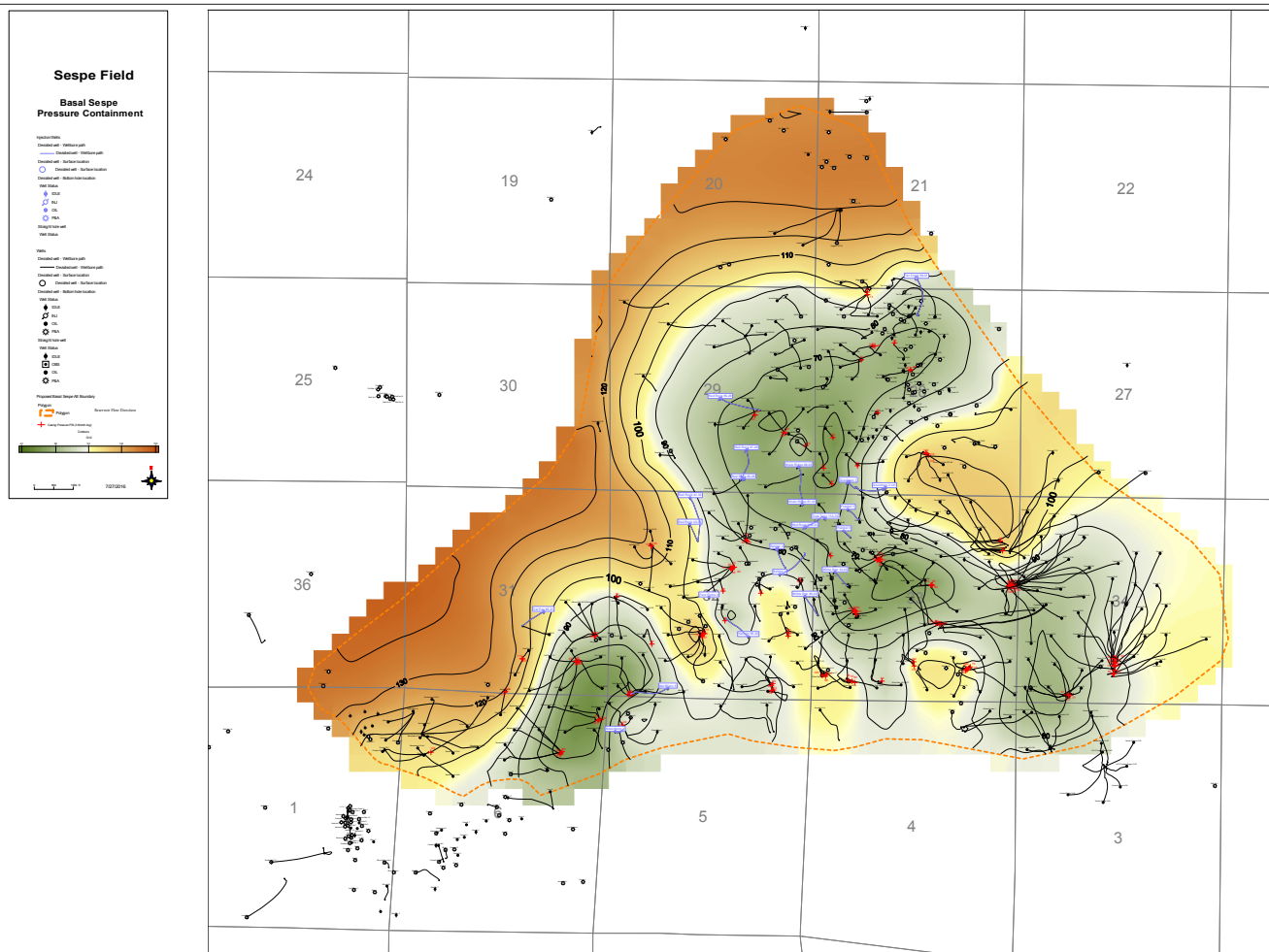


Figure 9. Pressure Survey Map

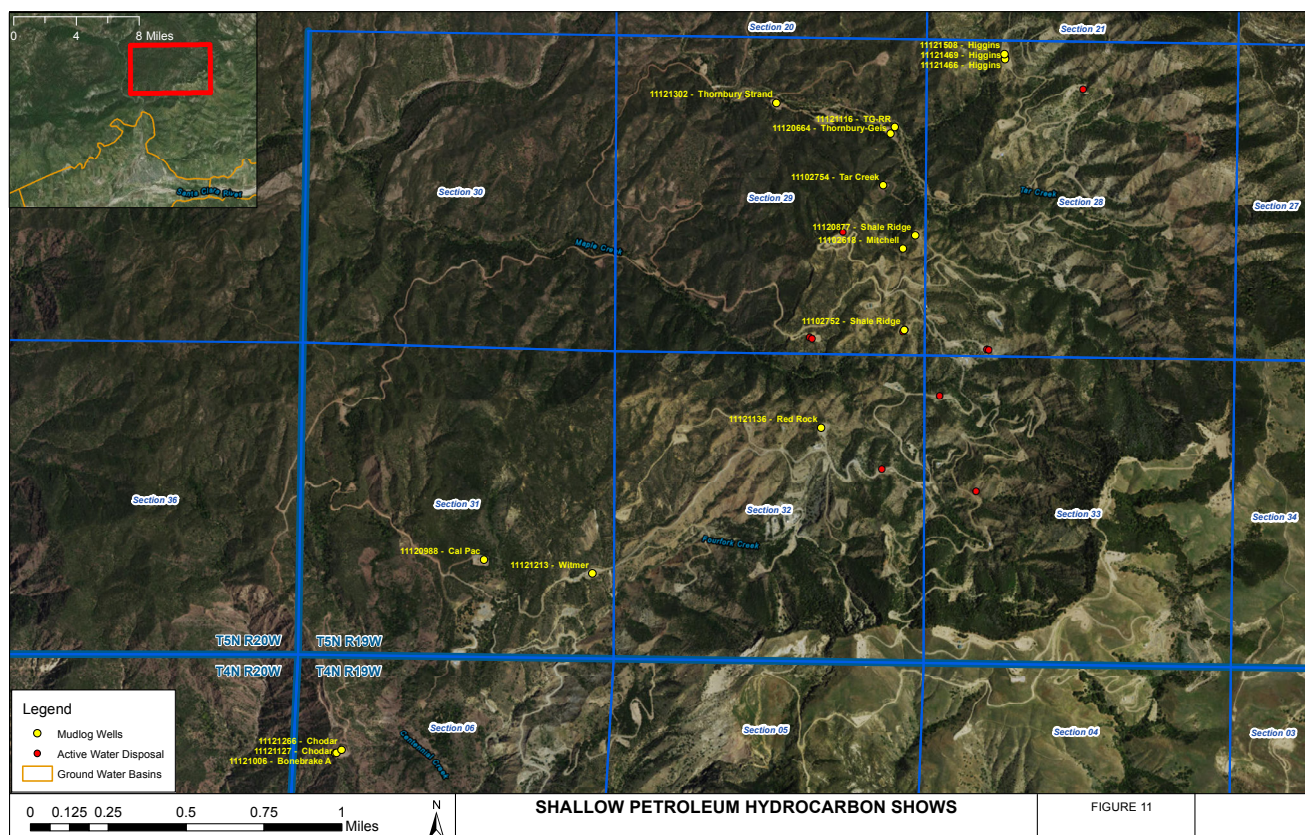


Figure 10. Shallow Oil Shows

Table 1. Mudlog Information for Shallow Oil Shows in Study Area

API Number	Lease Name	Well Number	Section	Township	Range	SPUD Date	Elevation	Well Type	Production Zone	Total Depth	Log Information	Area Name
11121006	Bonebrake A	34-6	6	4N	19W	10/17/1980	1788' GL	O&G	Basal Sespe	4659'	Mudlog begins at 600' with oil cut observed; Sespe Formation at surface	Tar Creek-Topatopa
11121127	Chodar	83-1	6	4N	19W	9/30/1981	1789' GL	O&G	Basal Sespe	4531'	Mudlog begins at 600' with oil show observed; Sespe Formation at surface	Foot of the Hills
11121266	Chodar	74-1	6	4N	19W	12/27/1983	1788' GL	O&G	Basal Sespe	5150'	Mudlog begins at 550' with oil show observed; Sespe Formation at surface	Foot of the Hills
11121466	Higgins	11X-28	28	5N	19W	11/12/1987	2827' GL	O&G	Sespe	4452'	Mudlog begins at 650' with trace oil at 680'; Rincon Formation at surface	Tar Creek-Topatopa
11121469	Higgins	12-28	28	5N	19W	12/02/1987	2847' GL	O&G	Basal Sespe	4820'	Mudlog begins at 50' with trace oil at 50' and throughout shallow depths; Rincon Formation at surface	Tar Creek-Topatopa
11121508	Higgins	129	28	5N	19W	7/9/1988	2848' GL	O&G	Basal Sespe	4869'	Mudlog begins at 50' with trace oil noted at 180'; fluorescence noted at shallower depths; no shallow sands; Rincon Formation at surface	Tar Creek-Topatopa
11102618	Mitchell	1	29	5N	19W	10/5/1950	2900' DF	Plugged O&G - never completed	Not completed	1621'	Shale at surface to >450'; Oil show at 110'; Rincon Formation at surface	Tar Creek-Topatopa
11121116	TG-RR	1US	29	5N	19W	8/26/1981	2467' GL	Abandoned O&G	Upper Sespe	315'	Drillers Log identified open hole making water with gas at rate of 3 gpm at 100'; First oil show at 200'; Sespe Formation at surface	Tar Creek-Topatopa
11121302	Thornbury Strand	42-29	29	5N	19W	10/25/1984	2447.5' GL	O&G	Coldwater/Cozydell/Matlija	7330'	Mudlog @ 140' with oil show; Sespe Formation at surface	Tar Creek-Topatopa
11102754	Tar Creek	74-29	29	5N	19W	N/A	2584' GL	Abandoned O&G	Sespe	3545'	Drillers Log 1st sand at 815' with gas and tar; Sespe Formation at surface	Tar Creek-Topatopa
11102752	Shale Ridge	88-29	29	5N	19W	9/26/1952	2743' GL	Active WD well	Basal Sespe X and T Zones	4175'	Fluorescence noted in shale cuttings at 0 - 60'; Drillers Log identified fluorescence in shale at surface throughout shallow depths; 1st sand at 248' (top of Vaqueros) with dark oil staining; Rincon Formation at surface	Tar Creek-Topatopa
11120664	Thornbury-Geis	1A-29	29	5N	19W	4/8/1976	2491' GL	O&G	Sespe	3475'	Mudlog at surface with show; Oil show in surface cuttings that continued throughout shallow depths; Sespe Formation at surface	Tar Creek-Topatopa
11120877	Shale Ridge	15-28	29	5N	19W	7/17/1979	2875' GL	O&G	Basal Sespe	4475'	Mudlog begins at 45' with abundant tar noted and oil show noted throughout shallow depths; 1st sand at 150' with oil fluorescence noted; Vaqueros Formation at surface	Tar Creek-Topatopa
11120988	Cal Pac	66-31	31	5N	19W	5/1/1982	2114' GL	O&G	Sespe	4799'	Mudlog begins at 60' with trace oil at 180'; no shallow sand; Alluvium at surface with underlying Sespe Formation	Tar Creek-Topatopa
11121213	Witmer	75-31	31	5N	19W	10/21/1982	2098' GL	O&G	Basal Sespe	4131'	Mudlog begins at 550'; fluorescence and show at 630'; Vaqueros Formation at surface	Tar Creek-Topatopa
11121136	Red Rock	61-32	31	5N	19W	05/08/1985	2735' GL	O&G	Sespe/Coldwater	4450'	Mudlog begins at 40' but oil and gas contamination in mud; good oil show in sandstone at 400'; Rincon at surface	Tar Creek-Topatopa

Notes:
DF = Derrick Floor
GL = ground level
gpm = gallons per minute
O&G = oil and gas
TD = total depth

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PSAAPG Membership Directory

The PSAAPG website will have a members-only password-protected membership directory available as of March 1, 2018

Please email SKChehal2@aeraenergy.com if you do not want your name listed. There will also be a checkbox for this on the PSAAPG membership renewal form that goes out before the end of this year.

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Next meeting:

Thursday, September 17, 2020

Speaker: Stephen Hubbard, University of Calgary

Topic: TBA

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No physical meetings are planned until January 2021

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Los Angeles Basin Geological Society www.labgs.org

No in-person talks are scheduled yet.

Next virtual meeting is:

Tuesday Aug. 4

Speaker: Thomas Howard

Topic: Logging of water wells, part 2; check the website for the latest information.

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(Continued on next page)

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Program Director:	Jim O'Brient	
Website Editor:	Andrew Alden	

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.

President	Laird Thompson	lbtfracs@gmail.com
Vice-President	Chris May	c.law.may@gmail.com
Treasurer	Barb Portwood	bbportwood@gmail.com
Co-Treasurer	Jim Jackson	jackson.js@comcast.net
Secretary	Clark Niewendorp	clark.niewendorp@state.or.us

Sacramento Petroleum Association

 P. O. Box 1844
 Folsom, CA 95630

Contact: Pam Ceccarelli
916-439-0400

No activities are planned at this time.

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

San Joaquin Geological Society
www.sanjoaquingeologicalsociety.org

 P. O. Box 1056
 Bakersfield, CA 93302

Contact: Jennifer Prosser
jprosser@envirotechteam.com

For the time being, virtual speakers will replace monthly meetings. The annual Fall Fiesta is cancelled, but a virtual event is planned to raise money for student scholarships. Check the SJGS website for the latest information.

President:	Maia Davis	Maia.Davis@crc.com
Past President:	Jeff Kimber	Jeff.kimber@conservation.ca.gov
President-Elect:	Kevin Weberling	Kevin.Weberling@crc.com
Vice-President:	Zack Webb	
Secretary:	Jennifer Prosser	jprosser@envirotechteam.com
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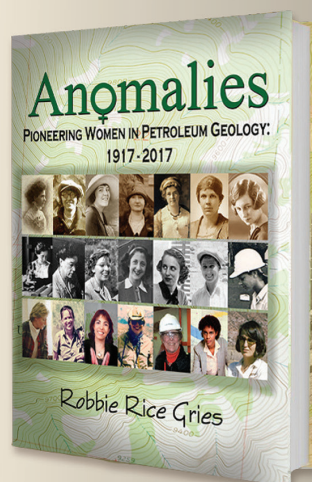
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– Allyson Anderson Book,
Executive Director - American Geosciences Institute

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.



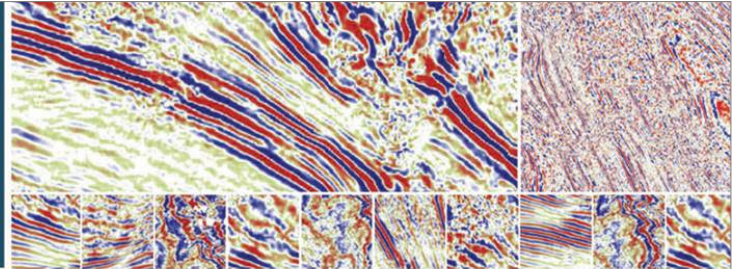


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