



LOS ANGELES BASIN GEOLOGICAL SOCIETY

September 2023 Meeting Announcement

Geology of the Failed-Rift Barmer Basin, Rajasthan, and the Opportunity to Travel Through India!

Dr. Richard Behl, Earth Science Dept., CSU, Long Beach

Thursday, Sept. 28th, 11:30 start, Signal Hill Petroleum, 2633 Cherry Ave., Signal Hill, Conference Room, 2nd floor

The LABGS Executive Committee and Membership extends their sincere appreciation to Brady Barto and SHP for their support!

Abstract

The Barmer Basin is an intra-continental rift basin initiated by the break-up of the Indian craton in the Early Cretaceous–Paleocene, hidden beneath the Thar Desert of Rajasthan, India. It formed over weakened crust as the Indian continent traveled northward over the Reunion hotspot enroute to collision with Asia. The Barmer Basin forms a well-defined graben between the Barmer high on the western side and the Indian shield on the eastern side, filled by greater than 6000m of Jurassic to Recent sediments overlying Proterozoic basement. The stratigraphic succession of rift-basin fill is complex and includes volcanics, alluvial and fluvial deposits, deltas, deep-water lacustrine gravity flows, diatomites and related diagenetic rocks, and source-rock quality mudstone forming a productive lacustrine rift petroleum system. The discovery of the Mangala field exploited an Upper Cretaceous to Paleocene quartz-rich sandstone reservoir. The prolific Paleocene Fatehgarh Formation contains the bulk of the 7.3 billion barrels of oil in place identified to date. Other potential reservoirs are common, including quartz-phase porcelanite, similar to the Monterey Formation of California. Unlike the Monterey, however, the biosilica of the Paleocene Barmer Hill Formation is entirely lacustrine in origin and comes from the earliest non-marine diatoms known from the biostratigraphic record. Nonetheless, the lessons learned about the Miocene Monterey Formation by California geologists proved applicable to Paleocene Indian porcelanite reservoirs. Remarkably, these two diatomaceous formations have striking similarities in composition, sedimentary structures, and reservoir properties.

One of the key benefits of being a geologist is the opportunity for travel that expands one's technical and cultural horizons. I was asked to help an Indian oil company understand their siliceous reservoirs and this gave my wife and I the chance to explore this dynamic, exciting, and colorful country from New Delhi to Jaipur to Agra to Bombay. Join us for the geologic and cultural travel logs.

Speaker's Biography

Dr. Richard (Rick) Behl's expertise is in the sedimentology and sedimentary petrology of hemipelagic and pelagic sediments and their relationship to climatic, oceanographic, and tectonic change. He earned his Bachelor's degree at UC San Diego and his PhD at UC Santa Cruz.

Behl's research focuses on the Quaternary Santa Barbara Basin and the petroliferous Miocene Monterey Formation. Rick has participated in numerous international marine geologic expeditions and led dozens of field trips and short-courses for professional organizations, international conferences, and industry. He has written more than 60 peer-reviewed, scientific articles, 180 abstracts, and one controversial book. He is a Fellow of the Geological Society of America and served as a past President of both the Pacific Sections AAPG and SEPM and as AAPG Distinguished Lecturer. Rick currently serves as Vice President of the LABGS.

Luncheon Prices, cash or check

Lunch and Talk (pre-registered)	\$25.00
Retired:	\$20.00
Student:	\$10.00
Walk-ins:	\$35.00

Location

Signal Hill Petroleum, 2633 Cherry Ave., Signal Hill, Conference Room, 2nd floor.

Reservations are required by noon, Monday, September 25th at labgs.org/meeting_info.html. Alternatively, contact LABGS Secretary Joseph Landeros at (626) 497-1710 or landerosjd@gmail.com.

“[Geologists] run up hill and down dale, knapping the chucky stanes to pieces wi' hammers, like sae many road-makers run daft, they say it is to see how the world was made!”

- *Sir Walter Scott (1771 – 1832), in St. Ronan's Well (1832)*

LABGS Executive Committee

President: Dan Steward
(936) 647-6737
daniel@ironhorsenergy.com

Treasurer: Francine Cason
(562) 756-0270
fcason5@gmail.com

VP & Programs: Rick Behl
(949) 201-0025
richard.behl@csulb.edu

Secretary & Webmaster: Joseph Landeros
(626) 497-1710
landerosjd@gmail.com

Scholarships: Karla Tucker
(714) 658-0474
ktr2@aol.com