



# LOS ANGELES BASIN GEOLOGICAL SOCIETY

January 2024 Meeting Announcement

**Fluvial reservoir architecture, directional heterogeneity and continuity, recognizing incised valley fills, and the case for nodal avulsion on a distributive fluvial system: Kern River field, Kern County, California**

*Dave Larue, Chevron North American Exploration & Production (retired)*

**Thursday, January 25<sup>th</sup>, 11:30AM**

**Signal Hill Petroleum, 2633 Cherry Ave., Signal Hill**

**2<sup>nd</sup> floor Conference Room,**

## **Abstract**

The Kern River field of California contains a succession of upper Miocene fluvial deposits more than 1,000 ft. thick that represents a distributive fluvial system (DFS). Well spacing is so tight (100–200 ft) that well logs can be used to create images that appear similar to seismic sections which can be readily interpreted. Directional heterogeneity and continuity are associated with orientation of the channelized geobodies: parallel to paleocurrent direction, sandstone continuity is measurably higher. Larger channelized geobodies at Kern River field are on average 46 ft thick and 1.4 mi wide (perpendicular to paleocurrent flow). They possess a mappable lower erosional surface and internally consist of high net-to-gross, multi-story sandstone bodies. These large, channelized geobodies are interpreted to represent the fills of incised valleys. Incised valley deposits are produced by punctuated incision and aggradation typically related to falls in base level, from whatever origin. The valleys are then filled during subsequent periods of aggradation, first resulting in the filling of the valleys and then allowing the floodplain to aggrade as well. Two systems tracts can then be defined (after Shanley and McCabe, 1994): the incised valley tract, representing the typically high net-to-gross fill of the incised valley, and the aggradation tract, representing the aggradation of the floodplain as well as associated single- and multistory sandstone bodies that are not contained within incised valleys. The high frequency of these geobodies may be associated with changes in late Miocene climate, base level, eustacy, and autocyclic nodal avulsions on a DFS.

## Biography

Dave Larue is a stratigrapher and earth modeler who retired from Chevron in 2018 and is currently an adjunct professor at the University of California, Riverside. He was the last Ph.D. student of the founder of sequence stratigraphy, Larry Sloss, and a student of one of the dominant figures in fluvial sedimentology, Roscoe G. Jackson II.

## Luncheon prices, cash or check

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

Reservations are required by noon, January 22<sup>nd</sup> at [labgs.org/meeting\\_info.html](http://labgs.org/meeting_info.html) or directly contact LABGS Secretary Joseph Landeros at (626) 497-1710 or [landerosjd@gmail.com](mailto:landerosjd@gmail.com).

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“I don’t know how to get smart without reading a lot.”

- *Charlie Munger (1924 - 2023)*

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