



# LOS ANGELES BASIN GEOLOGICAL SOCIETY

February 2023 Newsletter

## Meeting Announcement:

**Thursday, February 23<sup>rd</sup>, 11:30 start**

Signal Hill Petroleum, 2633 Cherry Ave., Signal Hill, Conference Room,  
2<sup>nd</sup> floor

*The LABGS extends their sincere appreciation to Brady Barto and SHP for their continued support with the provision of a venue!*

## Tectonic Evaluation of Seal Beach Anticline Using Modern 3D Seismic

Dan M. Gish, CEO, 3D Seismic Solutions, LLC

Steve Boljen, President, 3D Seismic Solutions, LLC

### Abstract

Subsurface tectonic models for the Long Beach – Seal Beach area have historically been inferred from oil well litho-correlations, limited outcrop exposures, sporadic earthquake data, and relatively marginal quality seismic data. The resulting historical concept of the Seal Beach (SB) trend was dominated by a narrow belt of NW-SE trending, right lateral, strike-slip faults, generally referred to as the Newport-Inglewood Fault Zone (NIFZ). Until recently, high-quality, modern 3D seismic data to corroborate these concepts has been lacking due to the surface areas being densely urbanized. This has complicated the ability to acquire and appropriately process high quality 3D data. Our analysis of recent 3D seismic data along the SB trend reveals: i) the study area is actively

undergoing far more recent surface deformation than previously recognized; ii) the faults exhibit multiple orientations and displacements, frequently offsetting and folding each other in complex interactions oriented perpendicular to the prevailing NW-SE concept; iii) a newly identified fault zone, the Garden Grove Fault, located ~1 ½ miles northeast of the NIFZ trace appears to be active and is primarily responsible for the formation of the Seal Beach Anticline (SBA); iv) we interpret the SBA to be a thrust-ramp anticline along a system of east-verging blind thrusts during late Miocene time, rather than the result of major strike-slip faulting, and v) the separate Los Alamitos trend is currently experiencing uplift, steep folding on its eastern flank, surface faulting, shallow deformation, and may be linked to a larger thrust fault system underlying Wilmington and Seal Beach Anticlines.

## Speaker's Biography

Dan and Steve are co-founders of 3D Seismic Solutions, a company applying proprietary 3D seismic technology to image complex urban environments, based on their oil industry backgrounds of more than 45 years each, including numerous international assignments. Steve holds a BS degree in Geology while Dan holds an MS degree in Geophysics. Both have worked extensively throughout the Los Angeles Basin for collectively more than 30 years, evaluating numerous proprietary 3D seismic surveys. Steve has been the Exploration Manager for an independent oil company, Chief Oil & Gas Operations for all federal lands in California, and Manager, Oil & Gas Division of an international consulting company. His experience covers 11 states and 5 foreign countries.

Dan has worked for numerous major oil & gas companies (Amoco, Arco, UPRC, Anadarko), and has served on numerous boards and as CEO and President of public companies. Dan spent more than 20 years working international exploration assignments around the world. Prior to co-founding 3D Seismic Solutions, he served as Vice President Exploitation for all US operations for a large public master limited partnership, managing an integrated staff of nearly 40 reservoir engineers, geologists, geophysicists.

## Luncheon Prices, cash or check

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

## Logistics

Location: [Signal Hill Petroleum, 2633 Cherry Ave.](#), Signal Hill, 2<sup>nd</sup> floor conference room.

Reservations are required by noon, Monday, February 20<sup>th</sup> at [labgs.org/meeting\\_info.html](http://labgs.org/meeting_info.html). Alternatively, contact LABGS Secretary Joseph Landeros at (626) 497-1710 or [landerosjd@gmail.com](mailto:landerosjd@gmail.com).

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“There is no doubt that further substantial discoveries will be made. However, they cannot be found on paper alone. To be discovered, the play must be drilled.”

- *Hy Seiden (1915 – 2011), Pearl Harbor Survivor, geologist and explorationist behind the discovery well at the Asphalito oil field (50MMBOE EUR), discovered in between 4 supergiants several decades after their respective discoveries (Elk Hills, McKittrick, Midway-Sunset, Cymric)*

## LABGS Board Members

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