



San Joaquin Geological Society

VIRTUAL MEETING

Date: Tuesday, May 11th, 2021

Time: 6:30 PM Virtual Lecture

Place: Zoom link included in email

Our virtual lecture will be held via Zoom. Meeting link and access code to follow!

A brief summary of the structural geology, oil potential, oil fields, and data base of the fold belt along the western and southern margins of the San Joaquin Basin, CA, USA

Presented by:

Thom Davis, Geoff Gallant, and Mathew Davis

SJGS WEBSITE

<http://www.SanJoaquinGeologicalSociety.org/>

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Abstract: The San Joaquin basin is an AAPG Super-Basin¹ with ~17 BBOE produced to date and three excellent source rock intervals. Numerous untested oil prospects are likely present along the fold belt of the western and southern margins of the basin but are difficult to image. A 2003 USGS report² estimated ~160 MMBO mean of undiscovered conventional oil within the hanging wall portion of the fold belt while our 2015³ estimate suggested the footwall portion of the fold belt could contain several times that amount. This exceptional “lower 48 onshore” exploration potential is supported by prolific source and reservoir rocks and a complex tectonic and depositional history that produced numerous oil traps. This presentation is a quick outline of the structural geology to support the fold belt’s exploration potential, the secondary opportunities shown by our oil fields assessments, plus a discussion of the extensive oil & gas data base in Kern County that is vital to working the fold belt. This presentation reflects the activities and interests of Thomas L. Davis Geologist and staff, and Jay Namson, over the last three decades in the basin, and their areas of study. Presenters are Thom Davis (TLD), Geoff Gallant (GG), and Mat Davis (MJD). TLD will provide a geologic overview using maps and cross sections that will emphasize the structural style, geologic history, and exploration potential of the fold belt. GG will discuss our oil field assessments in the fold belt and focus-in on one or two fields using maps, cross sections, production data, the potential for EOR and new pool discoveries, and the field’s carbon storage potential. MJD will review the progress of our in-house oil & gas data base much of which is in GIS format. TLD will end the presentation by showing key field trip locations which provide geologists and engineers outcrop analogs to the basin’s trapping structures and reservoirs.



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Biographies:

Thom Davis' work and research experience are in petroleum exploration and oil field development, structural geology, active tectonics, and surface geologic mapping in California, Nevada, South Asia and northern South America. Davis is CA Professional Geologist with a BS from UCLA and PhD from UCSB, tldavisgeo@gmail.com

Geoff Gallant is a petroleum geologist with exploration experience in California and the U.S. Gulf Coast region. Geoff has worked with Thomas Davis for over 20 years and holds an MSc in Geology from Tulane University in New Orleans.

Mat Davis, geologist, works with Thom and Geoff on projects in California. Mat has a dual BS in geology and chemical engineering from Cal Poly Pomona. Mat will start a MS in Petroleum Engineering at USC this fall, mjdavistldgeo@gmail.com

References:

¹ Neher, K. 2018, San Joaquin Basin, California, Super Basin: Past, Present and Future

San Joaquin Geological Society December 2018, SJGS Meeting & Presentation

² United States Geological Survey (USGS), 2003, Professional Paper 1713

³ Davis, T., 2015, Study shows evidence for untested large traps, San Joaquin basin, Calif.: Oil & Gas Journal, v. 113.10, p. 42-51.