

Thomas L. Davis, Lecturer in Geology, CSUB

California Professional Geologist #4171

Education:

University of California, Santa Barbara, PhD, Geology, 1983. Dissertation: Late Cenozoic Structure and Tectonic History of the Western "Big Bend" of the San Andreas Fault and Adjacent San Emigdio Mountains, California.

University of California, Los Angeles, Bachelor of Science, Geology, 1976.

Publications as 10/01/2020:

Davis, T.L., 1986, A structural outline of the San Emigdio Mountains, in Davis, T.L. and Namson, J.S., eds., Geologic Transect Across the Western Transverse Ranges: Pacific Section, Society of Economic Paleontologists and Mineralogists, Guidebook and Volume 48, p. 23-32.

_____, 2015, Study shows evidence for untested large traps, west-side San Joaquin basin, California: Oil & Gas Journal, Oct. 5, 2015, p. 42-50.

_____, 2017, Evaluating fault lines in Aliso Canyon, **Science**, v. 358, Issue 6363, p. 601, 10.1126/science.aag0676.

_____, 2018, Structural Wedge Model and the Antelope Uplift, West-Side of the San Joaquin Basin, California: The Possibility of Additional Large Hydrocarbon Traps, AAPG Datapages/Search and Discovery Article #90323 ©2018 AAPG Annual Convention and Exhibition, Salt Lake City, Utah, May 20-23, 2018

Davis, T.L., and Duebendorfer, E., 1982, Surficial structure and geomorphology of the San Andreas fault, western portion of the big bend, in Cooper, J.D., compiler, Neotectonics in southern California guidebook., Field Trip 14, 78th Annual Meeting of the Cordilleran Section of the Geological Society of America, April 19-21, 1982, p. 77-106.

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Davis, T.L., and Namson, J., 2014, Nevada's Chainman shale shows exploration potential, Oil & Gas Journal, June 2, 2014. P. 42-49.

_____, 1994, A balanced cross-section of the 1994 Northridge earthquake, southern California, **Nature**, v. 372, no. 10, p.167-169.

_____, 2017a, Hydrocarbon Traps and Structural Style in a Transpressional Belt: The San Andreas Fault and Deformed California Oil Basins Can Provide Exploration Guidance along The Sagaing Fault and Adjacent Fold Belts, Myanmar (abstract), AAPG Datapages/Search and Discovery Article #90294

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_____, 2017b, A Field excursion: Petroleum traps and structures along the San Andreas convergent strike-slip plate boundary, California, AAPG Bulletin, v. 101, no. 4, pp. 607–615, DOI:10.1306/011817DIG17040.

_____, 2020, Petroleum traps and structures along the San Andreas convergent strike-slip plate boundary, California, USA, in Behl, R.J., Ed., Outcrops that change the way we practice petroleum geology: Pacific Section AAPG Guidebook No. 81, p. 53-85. ISBN # 1-58955-007-2.

Davis, T.L., and Lagoe, M.B., 1988, A structural interpretation of major tectonic events affecting the western and southern margins of the San Joaquin Valley, in Graham, S.A., ed., Studies of the geology of the San Joaquin Valley, Pacific Section Society of Economic Paleontologists and Mineralogists, v. 60, p. 65-87.

Davis, T.L., Behl, R.J., O'Sullivan, K.M., Raskin, S., and Bryne, S., 2020, Santa Cruz Island field trip: Geology, history, and research opportunities, in Heermance, R.V., and Schwartz, J.J., eds., From the Islands to the Mountains: A 2020 View of Geologic Excursions in Southern California: Geological Society of America Field Guide 59, p. 115–163, [https://doi.org/10.1130/2020.0059\(04](https://doi.org/10.1130/2020.0059(04)

Davis, T.L., Lagoe, M.B., Bazeley, W.J.M., Gordon, S., McIntosh, K., and Namson J.S., 1988, Structure of the Cuyama Valley, Caliente Range, and Carrizo Plain and its significance to the structural style of the southern Coast Ranges and western Transverse Ranges, in W.J.M. Bazeley, ed., Tertiary tectonics and sedimentation in the Cuyama basin, San Luis Obispo, Santa Barbara, and Ventura Counties, California: Pacific Section, Society of Economic Paleontologists and Mineralogists, Book 59, p. 141-158.

Davis, T.L., Namson, J., and Yerkes, R.F., 1989, A cross section of the Los Angeles area: seismically active fold and thrust belt, the 1987 Whittier Narrows earthquake, and earthquake hazard: Journal of Geophysical Research, v. 94,

Davis, T.L., Namson, J.S., and Gordon, S.A., 1996, Structure and hydrocarbon exploration in the Transpressive basins of southern California, in Abbott, P.L., and Cooper, J.D., eds., Field conference guide 1996, Pacific Section, Society of Economic Paleontologists and Mineralogists, Volume and Book 80, Pacific Section, American Association of Petroleum Geologists, Guidebook and Volume 73.

_____, 2012, Structure and hydrocarbon exploration in the Transpressive basins of southern California, in in Guidebook for Field Trip #5, American Association Annual Convention, Long Beach, CA, April 22-25, 2012.

_____, 2014, Structure and hydrocarbon exploration in the Transpressive basins of southern California, in Guidebook for Field Trips #4 & #6, Joint Annual Meeting of PSAAPG-PSSEPM-PCSSEG, Bakersfield, CA, April 27-30, 2014.

_____, 2015, Ventura Basin Oil Fields: Structural Setting and Petroleum System: Guidebook for Field Trip #5, May 7, 2015, Joint Annual Meeting of PSAAPG & Coast Geologic Society, PSSEPM, & PCSSEG, Oxnard, CA 93050, May 2-8, 2015.

Duebendorfer, E.M., Vermilye, J., Geiser, P.A., and Davis, T.L., 1998, Evidence for aseismic deformation in the western Transverse Ranges, southern California: Implications for seismic risk assessment, *Geology*, v. 26, no. 3 p. 271-274.

Hauksson, E., Jones, L.M., Davis, T.L., Hutton, K., Brady, G., Reasenberg, P.A., Michael, A.J., Yerkes, R.F., Williams, P., Reagor, G., Stover, C.W., Bent, A.L., Shakal, A.K., Etheredge, E., Porcella, R.L., Bufe, C.G., Johnston, M.J.S., and Cranswick, E., 1988, The 1987 Whittier Narrows Earthquake in the Los Angeles Metropolitan Area, California, **Science**, v. 239, p. 1409-1412.

Namson, J.S., and Davis, T.L., 1988a, Seismically active fold and thrust belt in the San Joaquin Valley, central California: *Geological Society of America Bulletin*, v.100, p. 257-273.

_____, 1988b, Structural transect of the western Transverse Ranges, California: implications for lithospheric kinematics and seismic risk evaluation: *Geology*, v.16, p.675-679.

_____, 1990, Late Cenozoic fold and thrust belt of the southern Coast Ranges and Santa Maria basin, California: *American Association of Petroleum Geologists Bulletin*, v. 74, no.4, p. 467-492.

Namson, J.S., Davis, T.L., and Lagoe, M.B., 1990, Tectonic history and thrust fold deformation style of seismically active structures near Coalinga, in Rymer, M.J., Ellsworth, W.L., eds., *The Coalinga earthquake of May 2, 1983*, United States Geological Survey Professional Paper 1487, p. 79-96

Work Experience:

Albion International Resources, Inc.: Pakistan fold belt including test drilling of the Duki anticline, and Costa Rica exploration. Developed and successfully farmed-out the Duki Block, Pakistan to CONOCO.

Anadarko: structural evaluation of the Lost Hills anticline, northern Temblor Range and southern Diablo Range.

ARCO Alaska, Inc.: Brooks Range fold belt surface mapping.

ARCO Oil and Gas Company and ARCO Exploration Company: California basins exploration and evaluation, field mapping in the Cuyama and Salinas basins, Nevada fold belt exploration, Utah & Colorado overthrust exploration, Paradox basin exploration, California and Nevada field seminars.

ARCO International Oil & Gas Company: Pakistan exploration: Potwar basin & Baluchistan fold belt evaluation and field work.

CGG & PDVSA: Lake Maracaibo subsurface mapping, Venezuela.

Chevron USA: California basins evaluation, McKittrick oil field surface mapping.

Chevron Overseas: Pakistan exploration evaluation.

CONOCO: Pakistan exploration evaluation; Sulaiman Range field work and evaluation, Pakistan; balanced cross section seminars and California petroleum potential field trips.

Davis & Namson Consulting Geologists, Glendale, CA, USA

Exxon Exploration Company: Eastern Andes fold belt mapping, evaluation and regional cross sections.

Exxon Production Research Company: California field seminars.

The GHK Company: North Pyrenees fold belt field work and evaluation, France.

Gasco Energy, Inc.: San Joaquin basin exploration including mapping of west and south side oil fields, seismic interpretation, regional cross section construction, subsurface and surface mapping, and prospect generation. Nevada: field mapping, regional cross section construction, and prospect generation. Developed and successfully farmed-out five prospect areas and trends along the west-side of the San Joaquin basin.

Gulfsands Petroleum Inc.: Magdalena basin and central Cordillera evaluation and prospect generation, Colombia.

Harken Oil and Gas Company & ECOPETROL, Colombia: Magdalena basin exploration and field mapping.

Hondo Oil and Gas Company, Colombia, Magdalena basin exploration, Opon field development.

Hunt Oil Company: California basins evaluation and balanced cross section study, balanced cross section seminars, overthrust oil and gas potential of the western margin of the Sacramento basin, California, USA

Jupiter Exploration Inc.: Pakistan exploration, California basin evaluation. Developed and successfully farmed-out the Duki Block, Pakistan

Mobil Exploration and Producing U.S.: California basins evaluation, west side San Joaquin basin cross section study.

National Science Foundation (NSF): Northridge Earthquake 1994 research and cross section construction.

OXY (now CRC): led in-house field trips to the San Emigdio Mountains, Salinas basin, Ventura basin, northern Temblor Range; evaluation of the petroleum potential of the Carrizo Plain.

Oil & Gas Development Corporation (OGDC), Pakistan: Balanced cross section seminars, Potwar/Bannu evaluation and field mapping.

PEMEX: Instruction in balanced cross section construction and led structural field seminars in the eastern Cordillera fold belt.

Pakistan Petroleum Limited (PPL): Kohat & Potwar basins exploration and field mapping.

Santa Fe Energy Resources: California basins evaluation, Midway-Sunset Field structural study and subsurface and surface mapping, taught California oil field seminars.

Seven Seas Petroleum: Turkey, Jordan, and Colombia oil and gas prospect evaluations, Papuan foreland basin study and PPL 182(PNG) prospect evaluation.

Shell/AERA, west-side San Joaquin basin field trip.

Stone Exploration Inc.: California basins evaluation, Cuyama basin evaluation and surface and subsurface mapping.

Southern California Earthquake Center (SCEC): Earthquake Hazards Research of 1994 Northridge earthquake.

Southern California Gas Company: subsurface mapping of Aliso Canyon, Montebello, Playa Del Rey, Goleta, Honor Ranch gas storage fields.

Thomas L Davis Consulting Geologist, Ventura, CA, USA

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United Meridian Corporation (UMC): Chittagong Hill Tracts & Bangladesh fold belt field mapping, oil and gas prospect evaluation, and construction of balanced cross sections.

United States Geological Survey Earthquake Hazard Research (NEHRP): blind thrust evaluation and research of the Whittier Narrows, Loma Prieta, and Northridge earthquakes. Proposed and mapped the Elysian Park thrust.

Vastar Resources, Inc.: Eastern Nevada fold belt exploration and field mapping.

Award:

Davis, with Namson, were awarded ARCO's outstanding technical achievement award in 1986 for their application of balanced cross sections to California exploration and discovery of a subthrust Neogene basin under the Carrizo Plain.

Scientific advancements:

Following the 1983 Coalinga earthquake, Namson and Davis (1988a) using balanced cross sections showed that a fold and thrust belt crustal model best explained the earthquake characteristics, geologic setting, and subsurface data.

In early 1987 Davis proposed the northern Los Angeles basin was underlain by a series of blind and active thrust faults. One of the faults moved later in 1987 producing the Whittier Narrow earthquake. The system was subsequently named the Elysian Park thrust system (Davis, et al., 1989).

Areas of extended field experience and mapping:

Western and southern margins of the San Joaquin basin, California, USA including the San Emigdio Mountains and Temblor Range at 1:24,000 scale.

Chittagong fold belt, Bangladesh, 1:50,000 scale.

Cuyama basin including central and northern Caliente Range at 1:24,000 scale, California, USA.

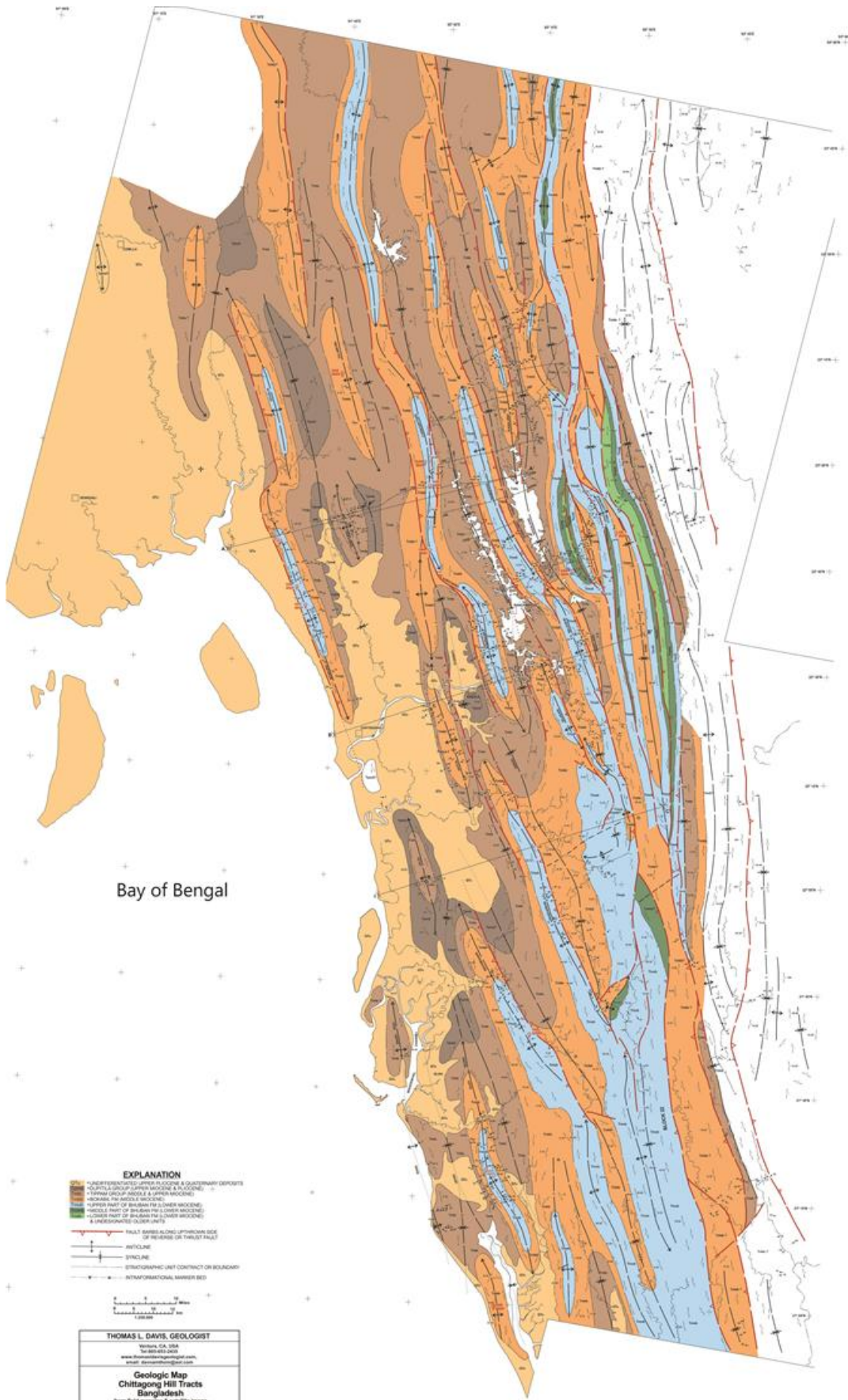
Pakistan fold belt (Sulaiman Range, Mari-Bugti Hills, and portions of the Salt Range and Margalla Hills), 1:50,000 scale.

Salinas basin, California, USA; mapped key areas of the eastern Santa Lucia Range and Hames Valley areas at 1:24,000 scale.

La Vela-Cumarebo portion of the coastal Venezuelan fold belt, 1:50,000 scale

Ventura basin, California, USA; surface mapping of key structural areas, 1:24,000 scale.

Southern Santa Maria basin, California, USA; surface mapping of key structural areas, 1:24,000 scale.



Bay of Bengal

- EXPLANATION**
- UNDERPERIODICITY: GREEN SLICONE & QUATERNARY DEPOSITS
 - KUPITTA GROUP: UPPER MIOCENE & PLEISTOCENE
 - TERNAL GROUP: MIDDLE & UPPER MIOCENE
 - MOWATTAH: MIDDLE MIOCENE
 - UPPER PART OF SHIBSARIN: LOWER MIOCENE
 - MIDDLE PART OF SHIBSARIN: LOWER MIOCENE
 - LOWER PART OF SHIBSARIN: LOWER MIOCENE
 - UNDISSEMINATED OLIGOCENE
- FAULT: BARRELS ALONG UP THROW SIDE OF REVERSE OR THRUST FAULT
 - SYNCLINE
 - SYNCLINE
 - STRATIGRAPHIC UNIT CONTACT OR BOUNDARY
 - INFORMATIONAL MARKER BED

0 10 20 Miles
0 10 20 Km

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**Geologic Map
 Chittagong Hill Tracts
 Bangladesh**
 from field mapping & satellite image
 interpretation by Thomas Davis (1988)