

F Jerry. Lucia

Professional Summary

August 22, 2025

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Professional Preparation

Academic Background

B.S. Engineering, University of Minnesota, 1953

M.S. Geology, University of Minnesota, 1954

Professional Appointments

Present Position: Retired Senior Research Scientist, Bureau of economic Geology, The University of Texas at Austin (2008 - Present). Currently working part time on various carbonate projects.

Exploitation Engineer, Shell Oil Company (1954 - 1955). Training program for engineers with short work assignments in various oil fields, field offices, and company schools in Oklahoma, West Texas, New Mexico, and Houston, including well-site evaluation work. Two years spent in the military.

Exploitation Engineer, Shell Oil Company (1957 - 1958). Training program for engineers with short work assignments in various oil fields, field offices, and company schools in Oklahoma, West Texas, New Mexico, and Houston, including well-site evaluation work. Two years spent in the military.

U.S. Army Corps of Engineers, 1st Lieutenant, 1954 - 1957; Heidelberg, Germany, Honorable discharge.

Senior Research Scientist, Bureau of Economic Geology, The University of Texas at Austin (June 2004 - 2008). Petrophysical and geological description of San Andres outcrop, Guadalupe Mountains, Dune (Grayburg) and Taylor Link (San Andres) fields, Seminole (San Andres) field, and South Cowden (Grayburg) field. Characterization of West Texas oil fields for additional oil recovery, University Lands research project.

Principal Investigator, Bureau of Economic Geology, The University of Texas at Austin (1992 - 2008). Oversee Reservoir Characterization Research Laboratory for Carbonates.

Senior Research Fellow, Bureau of Economic Geology, The University of Texas at Austin (March 1985 - 2004). Petrophysical and geological description of San Andres outcrop, Guadalupe Mountains, Dune (Grayburg) and Taylor Link (San Andres) fields, Seminole (San Andres) field, and South Cowden (Grayburg) field. Characterization of West Texas oil fields for additional oil recovery, University Lands research project.

Principal Investigator, Bureau of Economic Geology, The University of Texas at Austin (1998 - 2001). DOE Clear Fork Reservoir Characterization Project.

Senior Lecturer, Department of Geosciences, The University of Texas at Austin (1996 - 1999). Carbonate Reservoir Characterization, Fall Semester.

Principal Investigator, Bureau of Economic Geology, The University of Texas at Austin (1993 - 1996). DOE Outcrop Analogs Project.

Geological Advisor, Geoscience Institute (1987 - 1991). Evaluation of research needs for improved recovery from existing oil and gas fields. Classification of known oil reservoirs in the United States.

Head Office Senior Technical Geological Engineer, Production Department of Shell Oil Company (April 1980 - February 1985). Responsible for the technical expertise, staff level, and staff distribution of Geological Engineering specialty, Shell Oil Company.

Division Geological Engineer, Rocky Mountain/Mid-Continent Division, Production Department, Shell Oil Company (1970 - April 1980). Supervising development programs and Production Department exploratory efforts in the Northern Michigan Niagaran Reef Trend, Williston Basin, Anadarko Basin, and Permian Basin.

Staff Geological Engineer, Production and Exploration Departments, Mid-Continent Division (July 1967 - 1970). General production geology tasks in areas of interest to Shell Oil on the Northwest Shelf of the Permian Basin including lease surveillance, proposing and following development wells and exploratory wells (particularly in the Cato, San Andres field), coordination with the Exploration Department, and numerous administrative tasks. One year in the Exploration Department supervising the development and execution of an exploratory play for the San Andres in East-Central New Mexico.

Production Geologist, Production Department of Shell Development Company (1958 - 1967). Research on the origin and distribution of carbonate rocks with emphasis on the pore space. Includes field studies, detailed mapping on outcrops of productive formations, and studies of recent sedimentation and diagenesis particularly in the area of dolomitization and tidal flat sedimentation.

Areas of Expertise

Areas of Expertise

Carbonate geology

Petroleum exploration geology

Petroleum geological engineering

Sandstone geology

Awards

Awards and Honorary Societies

GCAGS Journal President's Award for Best Paper, 2014

Cheney Award, Southwest Section AAPG, 2009

Honorary Life Member, Permian Basin Section, Society of Economic Paleontologists and Mineralogists, 2003

Distinguished Lecturer, American Association of Petroleum Geologists, 2000 - 2001

AAPG Wallace E. Pratt Memorial Award for Best Paper, 1994 - 1997

AAPG Wallace E. Pratt Memorial Award for Best Paper, 1995 - 1996

Distinguished Service Award, West Texas Geological Society, 1993 - 1995

Service

External Committees Participation

Associate Editor, AAPG Publications, American Association of Petroleum Geologists, 2004 -

present

Member, Promotions Advisory Committee, Bureau of Economic Geology, 2005 - 2010

Member, Graduate Studies Committee, Jackson School of Geosciences, The University of Texas at Austin, 2002 - 2010

Member, Appointments Committee, Jackson School of Geosciences, 2007 - 2009

Member, Graduate Studies Committee, Department of Geological Sciences, The University of Texas at Austin, 2006

Member, Publication Committee, American Association of Petroleum Geologists, 2004 - 2006

Member, Graduate Support Committee, Jackson School of Geosciences, The University of Texas at Austin, 2003 - 2006

Chairman, Technical Review Committee, Society of Petroleum Engineers, 1994 - 1997

Member, Development of Geology and Geophysics Technical Committee, Society of Petroleum Engineers, 1994 - 1997

Technical Editor, Society of Petroleum Engineers, 1988 - 1994

Member, Nominating Committee, Society for Sedimentary Geology, 1991

Member, Reservoir Characterization Reprint Committee, Society of Petroleum Engineers, 1988 - 1989

Member, Publication Committee, American Association of Petroleum Geologists, 1984 - 1988

Chairman, Workshop on Research Needs for Hydrocarbon Fuels Reservoir Characterization Committee, U. S. Department of Energy, 1987

Member, Research Consortium Resource Recovery Task Force, Gulf Universities, 1982 - 1983

Member, Research Council, Society of Economic Paleontologists and Mineralogists, 1975 - 1978

Member, Research Committee on Reservoir Heterogeneity, American Petroleum Institute, 1966 - 1970

Proposal Review Panels Participation

AAPG (Jia-Jyun Dong et al. article), 2007

AAPG (Revised Weger article), 2007

American Association of Petroleum Geologists (Price et al. article), 2007

Basin Research (Article), 2007, 35 p.

Journal of Sedimentary Research (Melzer and Budd article), 2007

AAPG (Friedman remark), 2006

AAPG (Weger article), 2006

American Association of Petroleum Geologists (Article), 2006

American Association of Petroleum Geologists (Article), 2005

American Association of Petroleum Geologists (Article), 2005

American Association of Petroleum Geologists (Article), 2005

American Association of Petroleum Geologists (Article), 2005

Petroleum Research Fund (Proposal Review), 2005

American Association of Petroleum Geologists (Article), 2004

American Association of Petroleum Geologists (Article), 2004

American Association of Petroleum Geologists (Article), 2004

American Association of Petroleum Geologists (Article), 2003

Facies (Article), 2003

Facies (Article), 2003, 32 p.

Journal of Sedimentary Research (article), 2003, 42 p.

London Geological Society (article), 2003, 25 p.

Sedimentology (article), 2003, 32 p.

Teaching and Advising

University Courses Taught

Reservoir Geology and Advanced Recovery (co-taught with Dr. Fisher): Department of Geological Sciences, The University of Texas at Austin, Austin, Texas, Fall 2007.

Advanced Reservoir Characterization-Carbonates: Instructor, Department of Geological Sciences, The University of Texas at Austin, Austin, Texas, February 2006.

Fractures to caves to fractures-the touching-vug pore system: presented at Bureau of Economic Geology research seminar, Austin, Texas, January 6, 2006.

Reservoir Geology and Advanced Recovery: Co-Instructor, Department of Geological Sciences, The University of Texas at Austin, Austin, Texas, October 2005.

Introduction to carbonate tidal flats and beaches: presented to GEO 383, Department of Geological Sciences, The University of Texas at Austin, Austin, Texas, October 2003.

Carbonate reservoir geology of a portion of Ghawar field: the largest oil field in the world: The University of Texas at Austin, Bureau of Economic Geology, Austin, TX, 2001.

Continuing Education Courses Taught

Rock fabric approach to characterizing Permian Basin carbonate reservoirs: presented at Midland College Petroleum Professional Development Center, Midland, Texas, August 25-26, 2009.

Rock fabric approach to characterizing Permian Basin carbonate reservoirs: presented at Midland College Petroleum Professional Development Center, Midland, Texas, November 13-14, 2008.

Rock fabric approach to characterizing Permian Basin carbonate reservoirs: 2-day course presented at Midland College Petroleum Development Center, Midland, Texas, August 2006.

Sequence stratigraphy and rock fabrics, the keys to constructing realistic petrophysical models of carbonate reservoirs: presented to ChevronTexaco, Houston, Texas, November 2003.

ELF Petroleum, 1999.

Royal Dutch Shell, 1999.

Total Petroleum, 1999.

Geological and Engineering Aspects of Carbonate Pore Space: Shell, 1992.

Geological and Engineering Aspects of Carbonate Pore Space: Shell, 1991.

Geological and Engineering Aspects of Carbonate Pore Space: Shell, 1990.

Geological and Engineering Aspects of Carbonate Pore Space: ARCO, 1989.

Geological and Engineering Aspects of Carbonate Pore Space: Shell, 1989.

Geological and Engineering Aspects of Carbonate Pore Space: Shell, 1988.

Shell Oil Advanced Carbonate Diagenesis, 1985.

Shell Oil Geological Engineering, 1985.

Shell Oil Geological Engineering, 1984.

Shell Oil Subsurface Environments Course, 1984.

Shell Oil Advanced Carbonate Diagenesis, 1983.

Shell Oil Geological Engineering, 1983.

Shell Oil Subsurface Environments Course, 1983.

Shell Oil Geological Engineering, 1982.

Shell Oil Subsurface Environments Course, 1982.

Shell Oil Advanced Carbonate Diagenesis, 1981.

Shell Oil Geological Engineering, 1981.

Shell Oil Subsurface Environments Course, 1981.

Shell Oil Geological Engineering, 1980.

Field Trips Leadership

Co-leader, Carbonate and clastic reservoirs of the Permian Basin: Occidental Petroleum Company, 2001.

Co-leader, Carbonate rocks in outcrop, core, and wireline logs: Schlumberger, 2001.

Leader, Engineering-focused geologic field trip, Guadalupe Mountains: Shell, 1993.

Leader, The Lower Paleozoic of West Texas and Southern New Mexico-Modern Exploration Concepts: Permian Basin Society of Economic Paleontologists and Mineralogists, 1989.

Leader, Mega-Collapse Breccia and Associated Late-Stage Dolomitization of Ordovician Carbonates, Franklin Mountains, West Texas, midyear meeting: Society of Economic Paleontologists and Mineralogists, 1987.

Co-leader, San Andres/Grayburg Formations, Guadalupe Mountains, New Mexico and Texas: Permian Basin Section Society of Economic Paleontologists and Mineralogists, 1986.

Leader, Diagenesis of the El Paso Formation in the Franklin Mountains, Texas; Dr. Land: University of Texas, El Paso, Texas, 1983.

Leader, San Andres Formation, Big Dog Canyon, Guadalupe Mountains: Shell Oil, Carlsbad, Texas, 1983.

Leader, San Andres Formation, Big Dog Canyon, Guadalupe Mountains: Shell Oil, Carlsbad, New Mexico, 1982.

Co-leader, Robledo Mountains: Society of Economic Paleontologists and Mineralogists, El Paso, Texas, 1971.

Presentations

Presentations

Facies, flow properties and rock fabric characterization of Jabuti field: presented (with Rildo Oliveira) at 2010 RCRL Annual Meeting, Austin, Texas, October 2010.

Petrophysics of carbonate micropores: presented at 2010 RCRL Annual Meeting, Austin, Texas,

October 2010.

Using NMR data to predict rock fabric and permeability: presented at 2010 RCRL Annual Meeting, Austin, Texas, October 2010.

Locating remaining oil in carbonate reservoirs: the reservoir characterization problem: presented to Houston Geological Society Northsider's Group, Houston, Texas, April 21, 2009.

Locating remaining oil in carbonate reservoirs: the reservoir characterization problem: presented at Universidad Nacional Autonoma, Mexico City, Mexico, February 12, 2009.

Carbonate petrophysics: state of the art: presented at the Annual Summit of Halliburton Wireline and Perforating Services, Houston, Texas, June 18, 2008.

Acoustic travel time, rock fabric, porosity, and permeability in carbonate reservoirs: presented to Exxon/Mobil Upstream Research, Houston, Texas, May 22, 2008.

Burial dissolution of anhydrite in Permian reservoirs, origin and petrophysics: presented at the AAPG Annual Convention, San Antonio, Texas, April 2008.

Three dimensional petrophysics: the "petro" part of carbonate petrophysics: presented to Society of Professional Well Log Analysts, Breckenridge, Colorado, October 2007.

Acoustic traveltimes, rock fabric, porosity, and permeability in carbonate reservoirs: keynote address presented at Society of Exploration Geophysics Convention, San Antonio, Texas, September 27, 2007.

Reservoir model of northern platform, Sacroc field: presented to Kinder Morgan Company, Midland, Texas, March 13, 2007.

Approaches to imaging West Texas carbonate reservoirs: presented to Conoco/Phillips, Bastrop, Texas, February 2007.

Reservoir model of SARCRO Northern Platform Pennsylvanian field, Scurry County, Texas: presented to Houston SPE Permian Basin Study Group, Houston, Texas, October 17, 2006.

Why do you think wireline logs will recognize your carbonate facies: here is how it works: presented at Southwest Section AAPG Annual Meeting, Midland, Texas, May 22-, 2006.

The "petro" part of carbonate petrophysics: presented at Chevron 2005 SSC Forum, The Woodlands, Texas, October 13, 2005.

Characterization of touching-vug pore systems: presented to Anadarko Petroleum Company, The Woodlands, Texas, April 4, 2005.

Permeability characterization in carbonate reservoirs: the touching-vug problem: presented to Anadarko Oil Company, Austin, Texas, April 2005.

Rock fabrics and petrophysics, Shuaiba, Arab D, and Khuff Formations, the Middle East: presented to ConocoPhillips Petroleum Company, Houston, Texas, April 2005.

Hypersaline reflux: a density driven flow model for dolomitization: presented at luncheon meeting of DOGS Hydro Group, Austin, Texas, February 2005.

Understanding and predicting permeability distribution in carbonates: the rock fabric approach: presented to Association of Petroleum Geologists, Austin, Texas, February 2005.

Carbonate rock fabrics, petrophysics, and wireline logs: presented to ConocoPhillips Petroleum Company, Carlsbad, New Mexico, October 2004.

Variability, the bane of carbonate petrophysics: presented to Oxy Permian, Houston, Texas, September 2004.

Fracture to caves to fractures--the touching-vug pore system: presented at SEG Workshop on Fractured Reservoirs, Vancouver, Canada, August 2004.

Carbonate reservoir characterization: presented at Spanish Geology and Mining Institute, Madrid, Spain, July 2004.

Review of RCRL research: presented to AGIP, Milan, Italy, July 2004.

Review of RCRL research: presented to BP, London, England, July 2004.

Carbonate reservoir characterization: presented to Canadian Society of Petroleum Geologists, Calgary, Canada, May 2004.

Texture, fabrics, and petrophysics of the Ghawar field, Saudi Arabia--the largest oil field in the world--and it's a shallow-water carbonate: presented at PBSEPM luncheon meeting, Austin, Texas, May 2004.

Variability, the curse of carbonate petrophysics: presented to Houston Chapter, SPWLA, Seminar on Carbonate Petrophysics, Houston, Texas, May 2004.

Carbonate reservoir geology: presented to American Association of Petroleum Geologists, Houston, Texas, January 2004.

Stratigraphy and petrophysics of Sacroc and Cogdell Pennsylvanian reservoirs, Horseshoe Atoll, Permian Basin, West Texas: presented to Exxon/Mobil Research, Houston, Texas, December 2003.

Sequence stratigraphy and rock fabrics, the keys to constructing realistic petrophysical models of carbonate reservoirs: presented at Chevron/Texaco Technical Meeting, Houston, Texas, November 2003.

Rock fabric approach to carbonate reservoir characterization: presented to Conoco/Phillips, Carlsbad, New Mexico, October 2003.

Petrophysics of Pipe Creek rudist bioherm: presented at Reservoir Characterization Research Laboratory Annual Review Meeting, Austin, Texas, 2003.

Rock fabric and pore types; Cogdell Pennsylvanian Reservoir: presented at Reservoir Characterization Research Laboratory Annual Review Meeting, Austin, Texas, 2003.

Origin and petrophysics of touching-vug pore space: presented at the annual review meeting of the RCRL, Austin, Texas, October 2002.

Sacroc permeability model-the case for unique icehouse rock fabrics: presented at the annual review meeting of the RCRL, Austin, Texas, October 2002.

Dolomitization: a porosity-destructive process: presented to the Michigan Basin Geological Society, Lansing, Michigan, 2002.

Origin and petrophysics of dolostone pore space: presented at the London Geological Society workshop, London, England, 2002.

Rock-fabric approach to reservoir characterization: presented to Exxon Mobil, Houston, Texas, 2002.

Young carbonate fabrics as early stages in the development history of Permian Basin reservoirs: presented to the Permian Basin Section, SEPM, Midland, Texas, 2002.

BEG research on Clear Fork reservoirs--historic perspective and current work: presented at Clear Fork Workshop organized by Oxy Permian, 2001.

Carbonate reservoir characterization: workshop presented to Occidental Petroleum, Houston, Texas, 2001.

Carbonate reservoir characterization: workshop presented to Statoil, Stavanger, Norway, 2001.

Corals, carbonates, and conceptual models: presented to Schlumberger, Sugar Land, TX, 2001.

Integration of core analysis, wireline logs, and geologic descriptions: presented at Technical

Exchange Meeting held by Aramco, Dhahran, Saudi Arabia, 2001.

Carbonate reservoir characterization: workshop presented to AGIP, Milan, Italy, 2000.

Carbonate reservoir characterization: workshop presented to Altura Petroleum Company, Houston, Texas, 2000.

Dolomitization: a porosity-destructive process: presented as AAPG Distinguished Lecture, 2000.

Origin and petrophysics of carbonate rock fabrics: presented as AAPG Distinguished Lecture, 2000.

Carbonate diagenesis: the key to predicting the three dimensional distribution of petrophysical properties: presented to BP-Amoco, London, UK, 1999.

Carbonate diagenesis: the key to predicting the three-dimensional distribution of petrophysical properties in San Andres/Grayburg and other carbonate reservoirs in the Permian Basin: presented at the Permian Basin SEPM luncheon meeting, Midland, TX, 1999.

Practical applications of San Andres and Grayburg reservoir characterization: presented to SPE/WTGS, Midland, TX, 1999.

Rock fabrics, petrophysical rock typing, and wireline logs in carbonate reservoirs: presented to Petroleum Development Oman, Muscat, Oman, 1999.

Calculations of permeability and rock fabrics from wireline logs in the Haradh area of the Ghawar field, Saudi Arabia: presented to Saudi Aramco Corporation, Dhahran, Saudi Arabia, 1998.

Flow units in carbonate reservoirs: presented at SPE Forum, Impact of Pore-Scale to Well-Test Scale Data Relationships, 1998.

Location of remaining oil in San Andres and Grayburg reservoirs: so where is the remaining 65 percent?": presented at the luncheon meeting of the Midland Society of Petroleum Engineers, Midland, TX, 1998.

Petrophysical heterogeneity and location of remaining oil, Furhman-Mascho San Andres Unit #124 well: presented at University Lands Advanced Recovery Initiative: Workshop No. 2, Midland, TX, 1998.

Rock fabric workshop: presented to members of the RCRL, Austin, TX, 1998.

Rock-fabric and petrophysical characterization of carbonate reservoirs: presented at Elf Aquitaine Office, Pau, France, 1998.

Rock-fabric approach to estimating permeability in carbonate reservoirs from common wireline logs: presented at BP-Amoco Sunbury Office, London, England, 1998.

Texaco Petroleum Company, 1998.

Carbonate reservoir characterization: 2-week course presented to Perez Companc S.A., Austin, Texas and Carlsbad, New Mexico (with Charles Kerans), 1997.

Carbonate reservoir characterization: 3-day course presented to Pan Canadian Oil Company, Calgary, Canada, 1997.

Review of rock fabric/petrophysical properties research: presented to Anadarko Oil, Austin, TX, 1997.

Rock fabric/petrophysical classification of carbonate rocks: presented to Mobil Oil, Dallas, TX, 1997.

Rock-fabric petrophysical analysis of core and wireline-log data, Ghawar field: presented to Aramco Oil Company, Dhahran, Saudi Arabia, 1997.

Texaco Petroleum Company, 1997.

The role of geology in reservoir characterization: keynote address presented at the Best of AAPG session, Society of Petroleum Engineers Annual Technical Conference and Exhibition, 1997.

Reservoir Geology, Petroleum Development: Oman, 1995.

Saudi Aramco, 1995.

Reservoir Geology, Petroleum Department: OXY, USA, 1991.

Reservoir Geology, Petroleum Development: Marathon, 1988.

Reservoir Geology, Petroleum Development: Occidental, China, 1987.

Reservoir Geology, Petroleum Development: American Hunter, 1985.

Reservoir Geology, Petroleum Development: Texaco, 1985.

Activities of a Professional Nature

Professional Societies

American Association of Petroleum Geologists

Austin Geological Society

Geological Society of America

Society for Sedimentary Geology

Society of Petroleum Engineers

Publications

Peer Reviewed Journal Articles

Lucia, F. J., 2019, Touching-vug pore system, Lake Medina road cut, Medina County, Texas: GCAGS Journal, v. 8, p. 57-70.

Janson, X., and Lucia, F. J., 2018, Matrix microcrystalline structure and acoustic properties of oomoldic dolograine: Geophysics, v. 83, no. 4, p. MR199-MR210, <http://doi.org/10.1190/geo2017-0061.1>.

Lucia, F. J., 2017, Observations on the origin of micrite crystals: Marine and Petroleum Geology, v. 86, p. 823-833, <http://doi.org/10.1016/j.marpetgeo.2017.06.039>.

Van Simaëys, S., Rendall, B., Lucia, F. J., Kerans, C., and Fullmer, S., 2017, Facies-independent reservoir characterization of the micropore-dominated Word field (Edwards Formation), Lavaca County, Texas: AAPG Bulletin, v. 101, no. 1, p. 73-94, <http://doi.org/10.1306/06101616034>.

Loucks, R. G., Lucia, F. J., and Waite, L., 2013, Origin and description of the micropore network within the Lower Cretaceous Stuart City Trend tight-gas limestone reservoir in Pawnee Field in South Texas, GCAGS Journal, v. 2, p. 29-41.

Lucia, F. J., and Loucks, R. G., 2013, Micropores in carbonate mud: Early development and petrophysics: GCAGS Journal, v. 2, p. 1-10.

Garcia-Fresca, B., Lucia, F. J., Sharp, J. M., Jr., and Kerans, C., 2012, Outcrop-constrained hydrogeological simulations of brine reflux and early dolomitization of the Permian San Andres Formation: AAPG Bulletin, v. 96, no. 9, p. 1757-1781.

Lucia, F. J., and Kane, J. A., 2012, Calculation of permeability and initial water saturations from wireline logs in a mature carbonate reservoir, in Ruppel, S. C., ed., Anatomy of a giant carbonate reservoir: Fullerton Clear Fork field, Permian Basin, Texas: AAPG Studies in Geology 63 and The University of Texas at Austin, Bureau of Economic Geology Report of Investigations No. 276, p. 77-92.

Wang, F. P., and Lucia, F. J., 2012, Reservoir modeling and simulation of the Fullerton Clear Fork reservoir, Andrews County, Texas, in Ruppel, S. C., ed., Anatomy of a giant carbonate reservoir: Fullerton Clear Fork field, Permian Basin, Texas: AAPG Studies in Geology 63 and Bureau of Economic Geology Report of Investigations No. 276, p. 111-143.

Kurtzman, Daniel, El-Azzi, J. A., Lucia, F. J., Bellian, J. A., Zahm, C., and Janson, Xavier, 2009, Improving fractured carbonate-reservoir characterization with remote sensing of beds, fractures, and vugs: *Geosphere*, v. 5, no. 2, p. 126-139.

Kurtzman, Daniel, Jennings, J. W., Jr., and Lucia, F. J., 2007, Dissolution vugs in fractured carbonates: a complication? Or perhaps a key for simplifying reservoir characterization: *Geophysical Research Letters*, v. 34, doi:10.1029/2007/GL031229 [6 p.].

Lucia, F. J., 2007, Reservoir geology, in Holstein, E. D., ed., Volume V(A), Reservoir engineering and petrophysics, in Lake, L. W., ed.-in-chief, *Petroleum engineering handbook*: Society of Petroleum Engineers, p. V-1-V-24.

Lucia, F. J., 2004, Origin and petrophysics of dolostone pore space, in Braithwaite, C. J. R., Rizzi, G., and Darke, G., eds., *The geometry and petrogenesis of dolomite hydrocarbon reservoirs*: London, Geological Society, Special Publications, 235, p. 141-155.

Jennings, J. W., Jr., and Lucia, F. J., 2003, Predicting permeability from well logs in carbonates with a link to geology for interwell permeability mapping: *Society of Petroleum Engineers Reservoir Evaluation & Engineering*, v. 6, no. 4, p. 215-225.

Lucia, F. J., Kerans, Charles, and Jennings, J. W., Jr., 2003, Carbonate reservoir characterization: *Journal of Petroleum Technology*, v. 55, no. 6, p. 70-72.

Jennings, J. W., Jr., Lucia, F. J., and Ruppel, S. C., 2002, 3D modeling of stratigraphically controlled petrophysical variability in the South Wasson Clear Fork reservoir: *Society of Petroleum Engineers, SPE Paper No. 77592*, 15 p.

Jennings, J. W., Jr., and Lucia, F. J., 2001, Predicting permeability from well logs in carbonates with a link to geology for interwell permeability mapping: *Society of Petroleum Engineers, SPE Paper No. 71336*, 16 p.

Jennings, J. W., Jr., and Lucia, F. J., 2001, Predicting permeability in carbonates for interwell permeability mapping: *Journal of Petroleum Technology*, v. 53, no. 11, p. 42-43.

Lucia, F. J., Jennings, J. W., Jr., and Ruppel, S. C., 2001, South Wasson Clear Fork reservoir model: outcrop to subsurface via rock-fabric method: *Society of Petroleum Engineers, SPE Paper No. 70063*, 10 p.

Lucia, F. J., Jennings, J. W., Jr., Rahnis, M. A., and Meyer, F. O., 2001, Permeability and rock fabric from wireline logs, Arab-D reservoir, Ghawar field, Saudi Arabia: *GeoArabia*, v. 6, no. 4, p. 619-646.

Lucia, F. J., 2000, San Andres and Grayburg imbibition reservoirs: *Society of Petroleum Engineers, Paper SPE 59691*, 7 p.

Prasad, R. K., Lake, L. W., Jennings, J. W., Jr., and Lucia, F. J., 2000, Improving economics of production in heterogeneous reservoirs by redirecting water injection patterns: *Society of Petroleum Engineers, SPE Paper No. 59692*, 15 p.

Lucia, F. J., 1999, Characterization of petrophysical flow units in carbonate reservoirs: discussion: *AAPG Bulletin*, v. 83, no. 7, p. 1161-1163.

Wang, F. P., Lucia, F. J., and Kerans, Charles, ed., 1998, Modeling dolomitized carbonate-ramp reservoirs: a case history of the Seminole San Andres unit--Part 1, petrophysical and geologic characterizations: *Geophysics*, v. 63, no. 6, p. 1866-1875.

Lucia, F. J., and Ruppel, S. C., 1996, Characterization of diagenetically altered carbonate reservoirs, South Cowden Grayburg reservoir, West Texas: *Society of Petroleum Engineers*,

Paper SPE 36650, p. 883-893.

Lucia, F. J., 1995, Rock-fabric/petrophysical classification of carbonate pore space for reservoir characterization: AAPG Bulletin, v. 79, no. 9, p. 1275-1300.

Lucia, F. J., Kerans, Charles, and Wang, F. P., 1995, Fluid-flow characterization of dolomitized carbonate-ramp reservoirs: San Andres Formation (Permian) of Seminole field and Algerita Escarpment, Permian Basin, Texas and New Mexico, in Stoudt, E. L., and Harris, P. M., eds., Hydrocarbon reservoir characterization: geologic framework and flow unit modeling: SEPM (Society for Sedimentary Geology), SEPM Short Course No. 34, p. 129-153.

Kerans, Charles, Lucia, F. J., and Senger, R. K., 1994, Integrated characterization of carbonate ramp reservoirs using Permian San Andres Formation outcrop analogs: AAPG Bulletin, v. 78, no. 2, p. 181-216.

Lucia, F. J., and Major, R. P., 1994, Porosity evolution through hypersaline reflux dolomitization, in Purser, B. H., Tucker, M. E., and Zenger, D. H., eds., Dolomites, a volume in honour of Dolomieu: International Association of Sedimentologists, Special Publication No. 21, p. 325-341.

Wang, F. P., Lucia, F. J., and Kerans, Charles, 1994, Critical scales, upscaling, and modeling of shallow-water carbonate reservoirs: Society of Petroleum Engineers, Paper No. SPE 27715, p. 765-773.

Lucia, F. J., 1993, Carbonate reservoir models: facies, diagenesis, and flow characterization, in Morton-Thompson, Diana, and Woods, A. M., eds., Development geology reference manual: American Association of Petroleum Geologists, Methods in Exploration Series No. 10, p. 269-274.

Major, R. P., Lloyd, R. M., and Lucia, F. J., 1993, Oxygen isotope composition of Holocene dolomite formed in a humid hypersaline setting: comment and reply: a reply: Geology, v. 21, no. 3, p. 282.

Lucia, F. J., 1992, Carbonate reservoir models: facies diagenesis and flow characterization, in Morton-Thompson, Diana, and Woods, A. M., eds., Development geology reference manual: AAPG Methods in Exploration Series, No. 10, p. 269-274.

Lucia, F. J., Kerans, Charles, and Senger, R. K., 1992, Defining flow units in dolomitized carbonate-ramp reservoirs: Society of Petroleum Engineers, Paper No. SPE 24702, p. 399-406.

Major, R. P., Lloyd, R. M., and Lucia, F. J., 1992, Oxygen isotope composition of Holocene dolomite formed in a humid hypersaline setting: Geology, v. 20, p. 586-588.

Senger, R. K., Lucia, F. J., Kerans, Charles, Ferris, Malcolm, and Fogg, G. E., 1992, Geostatistical/geological permeability characterization of carbonate ramp deposits in San Andres outcrop, Algerita Escarpment, New Mexico: Society of Petroleum Engineers, Paper No. SPE 23967, p. 287-302.

Tyler, Noel, Major, R. P., Bebout, D. G., Kerans, Charles, Lucia, F. J., Ruppel, S. C., and Holtz, M. H., 1992, Styles of heterogeneity in dolomitized platform carbonate reservoirs: examples from the Central Basin Platform of the Permian Basin, southwestern USA: Journal of Petroleum Science and Engineering, v. 6, p. 301-339.

Kittridge, M. G., Lake, L. W., Lucia, F. J., and Fogg, G. E., 1990, Outcrop/subsurface comparisons of heterogeneity in the San Andres Formation: Society of Petroleum Engineers, Formation Evaluation, September, p. 233-240.

Lucia, F. J., and Fogg, G. E., 1990, Geologic/stochastic mapping of heterogeneity in a carbonate reservoir: Journal of Petroleum Geology, October, p. 1298-1304.

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