

GCAGS Journal

**A Publication of the
Gulf Coast Association of Geological Societies**
(A Section of the American Association of Petroleum Geologists)

**Volume 6
2017**

Editor

Barry Jay Katz

Managing Editor

James J. Willis

Associate Editors

Ling Gao and Robert K. Merrill



**GCAGS
JOURNAL**

GCAGS Journal, Vol. 6 (2017)

Copyright © 2017
Gulf Coast Association of Geological Societies
All rights reserved.

ISBN 978-0-9883883-6-9

Printed October 2017.

Special Fair Use Permission

If you want to use a single figure, a brief paragraph, or a single table from the *GCAGS Journal* in a paper in another publication, GCAGS considers this to be fair usage, and you need no formal permission. In that case, you should print a copy of this document and present it to your publisher. You are, however, required to provide proper citation (see Condition of Grant of Permission below). Permission for more extensive reproduction of GCAGS material can be requested from the Executive Director or Managing Editor (see www.gcags.org).

Condition of Grant of Permission

As a condition of the grant of permission contained under the **single use only or multiple item usage**, GCAGS requires: 1) a full citation in your bibliography for each GCAGS publication from which a table or figure or text is taken; and 2) a statement or citation in figure and title captions, including a) the author name(s) and year of original publication, followed by b) an appropriate phrasing acknowledging the granting of permission (e.g., “*reprinted by permission of GCAGS*” or “*courtesy of GCAGS*.”

Cover: (Top) Indian Council Room, Longhorn Cavern, Burnet County, Texas, viewed as mesh with image texture mapped onto mesh surface. (Bottom) Indian Council Room viewed as mesh bottom. For more information, please see Lambert et al. paper herein.

CONTENTS

Vadose Diagenetic Dissolution Textures, Cementation Patterns, and Aragonite and Mg–Calcite Alteration in the Holocene Isla Cancún Eolianite Aragonitic Ooids: Modern Analog for Ancient Ooid-Grainstone Pore Networks	1
<i>Robert G. Loucks and Kim Patty</i>	
Depositional Systems, Facies Variability, and their Relationship to Reservoir Quality in the Jurassic Cotton Valley Group, Texas, Louisiana, and Mississippi Gulf Coast.....	21
<i>William A. Ambrose, Shirley P. Dutton, and Robert G. Loucks</i>	
Regional Trends in Diagenesis and Reservoir Quality of Jurassic Cotton Valley Sandstones, Northern Gulf of Mexico Basin.....	47
<i>Shirley P. Dutton, William A. Ambrose, Bohdan B. Horodecky, and Robert G. Loucks</i>	
Three-Dimensional Characterization of Cave Networks Using Photogrammetry: Example from Longhorn Cavern, Central Texas	63
<i>Josh Lambert, Robert G. Loucks, and Guinevere McDaid</i>	
Upper Cretaceous (Campanian) Ozan and Annona Chalks in Caddo–Pine Island Field, Northwestern Louisiana: Depositional Setting, Lithofacies, and Nanopore/Micropore Network.....	73
<i>Robert G. Loucks, Gregory Frébourg, and Harry D. Rowe</i>	
Identifying Spikes in Sonic Slowness and in Resistivity in the Tuscaloosa Marine Shale Using Continuous Wavelet Transform	92
<i>Carol Wicks and Samiha Naseem</i>	
Organic-Matter Pores: New Findings from Lower-Thermal-Maturity Mudrocks	99
<i>Robert M. Reed</i>	
Regional Stratigraphy of the Edwards Group and Associated Formations of Texas (Lower Cretaceous, Comanchean): In Defense of the Classic View	111
<i>Peter R. Rose</i>	
Beyond the Bad-Water Line—A Model for the Occurrence of Brackish Water in Upper Coastal Plain Aquifers in Texas	135
<i>Stephen Z. Hoff, Jr. and Alan R. Dutton</i>	
A Re-Evaluation of the Northern A.W.P. Field, McMullen County, Texas	150
<i>Scott Hamilton and Raphaël Gottardi</i>	
The Eagle Ford Group Returns to Big Bend National Park, Brewster County, Texas.....	161
<i>Matthew Wehner, Rand D. Gardner, Michael C. Pope, and Arthur D. Donovan</i>	
Carbonate Reservoir Characterization Using the Cementation Factor: A Case Study of Little Cedar Creek Field, Onshore Alabama	177
<i>Qifei Huang and Yuefeng Sun</i>	
Influence of Structural Position on Fracturing in the Austin Chalk.....	189
<i>David A. Ferrill, Kevin J. Smart, Ronald N. McGinnis, Alan P. Morris, and Kirk D. H. Gulliver</i>	
Middle Eocene Storm Deposition in the Northwestern Gulf of Mexico, Burleson County, Texas, U.S.A.	201
<i>James E. Flis, Thomas E. Yancey, and Christopher J. Flis</i>	

GCAGS Executive Committee (2016–2017)

President	Thomas Ewing
Vice President.....	Ralph Richardson
General Chairman.....	Gene Ames, III
Treasurer.....	Daniel Sutton
Past President.....	Brent Hopkins
Executive Director.....	Kate Kipper

GCAGS Journal Editorial Board (2016–2017)

Editor

Barry Jay Katz, Chevron, Houston, TX

Managing Editor

James J. Willis, Odyssey International, LLC, St. Martinville, LA

Associate Editors

Ling Gao, Chevron, Houston, TX

Robert K. Merrill, Catheart Energy, Inc., Sugar Land, TX

