

GCAGS Journal

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

**Volume 11
2022**

Editor

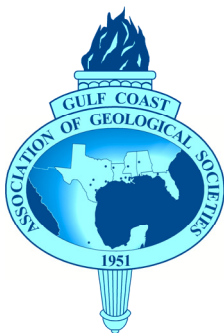
Robert K. Merrill

Managing Editor

James J. Willis

Associate Editors

Haoran Xia, Jeff McCartney, and Ibrahim Çemen



**GCAGS
JOURNAL**

GCAGS Journal, Vol. 11 (2022)

Copyright © 2022
Gulf Coast Association of Geological Societies
All rights reserved.

ISBN 979-8-9876054-1-7

Printed January 2023.

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 via email to permissions@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 with permission of GCAGS*” or “*courtesy of GCAGS*”).

Cover: Thickness of the Hensel–Glen Rose stratigraphic couplet, Llano Uplift and adjacent areas, Central Texas, showing traces of geologic cross-sections A–A’, B–B’, C–C’, and D–D’. Note that local darkening of thickness colors exists due to the partial-transparent overlay of greyscale tones related to Paleozoic and Precambrian outcrop areas. Contour interval is 50 ft. For more information, please see Rose paper herein.

CONTENTS

Textures, Mineralogy, and Reservoir Properties of an Altered Mafic Tuff Core from the Upper Cretaceous (Lower Campanian) of Central Texas	1
<i>Robert M. Reed and Robert G. Loucks</i>	
Depositional Systems, Lithofacies, and Lithofacies Stacking Patterns of the Jurassic Smackover Formation (Oxfordian) and Buckner Anhydrite (Kimmeridgian) in Van Zandt County, Texas: A Type-Cored Section from Northeastern Texas	16
<i>Peter Schemper, Robert G. Loucks, and Qilong Fu</i>	
Depositional Systems, Lithofacies, and Reservoir Characterization of the Upper Cretaceous Austin Chalk, Brookeland and Burr Ferry Fields in East Texas and Western Louisiana	37
<i>Robert G. Loucks, Sheng Peng, Kelly E. Hattori, Priyanka Periwal, Josh R. Lambert, Christopher K. Zahm, and Lucy T. Ko</i>	
The Early Cretaceous Transition from Carbonate to Siliciclastic Deposition in the Deep Waters of the Northern Gulf of Mexico: New Insights from the Keathley Canyon 102 #1 Well	58
<i>Michael L. Sweet, Marcie Purkey Phillips, Robert Cunningham, John W. Snedden, and Ryan Weber</i>	
Preliminary Source Rock Evaluation of the Lower Cenozoic Toledo Formation, Belize Basin, Southern Belize	71
<i>Jason D. Fisher and David T. King, Jr.</i>	
Outcrop Evidence for Variations in Channel-Floodplain Facies and Stratal Architectures across the Simsboro to Calvert Bluff Transition, Wilcox Group, Butler, Texas	83
<i>Peter P. Flaig, Christopher N. Denison, William A. Ambrose, and Thomas D. Demchuk</i>	
Influence of Stratigraphic Modeling Scales on Shale Oil Resources Assessment of the Midland Basin	104
<i>Robin Dommissie</i>	
Barremian-Albian Larger Benthic Foraminiferal Zones (Lower Cretaceous), Gulf of Mexico Region: A Key to Correlating Carbonate Reservoirs	115
<i>Robert W. Scott</i>	
The Lower Cretaceous Hensel–Glen Rose Stratigraphic Couplet in the Llano Uplift, Central Texas	124
<i>Peter R. Rose</i>	

GCAGS Executive Committee (2022)

President Mike Erpenbeck
Vice President..... David Clay
General Chairman..... Vacant
Treasurer..... Bryan Guzman
Past President..... Mark Shuster
Interim Executive Directors..... Mike Erpenbeck and James Willis

GCAGS Journal Editorial Board (2022)

Editor

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

Managing Editor

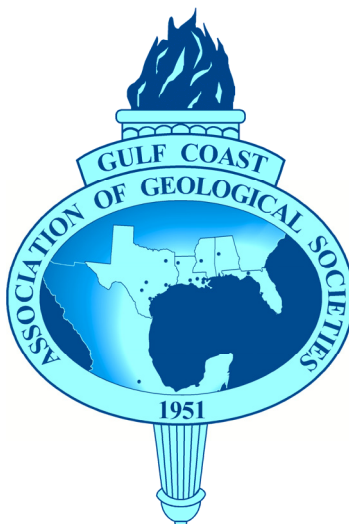
James J. Willis, Willis School of Applied Geoscience, St. Martinville, Louisiana

Associate Editors

Haoran Xia, Chevron Energy Technology Company, Houston, Texas

Jeff McCartney, McCartney Cavern Consulting LLC, Conroe, Texas

Ibrahim Çemen, Department of Geological Sciences, University of Alabama, Tuscaloosa, Alabama



Dedicated in memory of Peter R. Rose.

