
Complex Reef Mound Environment on a Cretaceous Shelf: Facies Analyses and Depositional Environment of the Owl Mountain Province, Fort Hood Military Installation, Texas

Jacob Allan Meinerts and Melinda Shaw Faulkner

Department of Geology, Stephen F. Austin State University, P.O. Box 13011, SFA Station, Nacogdoches, Texas 75962

GCAGS Explore & Discover Article #00370*

http://www.gcags.org/exploreanddiscover/2018/00370_meinerts_and_faulkner.pdf

Posted September 29, 2018.

* Article based on an extended abstract published in the *GCAGS Transactions* (see footnote reference below), which is available as part of the entire 2018 *GCAGS Transactions* volume via the GCAGS Bookstore at the Bureau of Economic Geology (www.beg.utexas.edu) or as an individual document via AAPG Datapages, Inc. (www.datapages.com), and delivered as an oral presentation at the 68th Annual GCAGS Convention and 65th Annual GCSSEPM Meeting in Shreveport, Louisiana, September 30–October 2, 2018.

EXTENDED ABSTRACT

The Owl Mountain Province is a plateaued, karst landscape located in the eastern section of the Fort Hood Military Installation (Fig. 1) and is characterized by Lower Cretaceous Fredericksburg Group carbonates. The topography is capped by thick sequences of the Edwards limestone; steep scarps and incised valleys along the edges host inter-fingering outcrops of the Edwards and Comanche Peak limestones, and the lower valleys are covered by alluvial sediments and intermittent outcrops of the Walnut Clay. These formations were deposited to the north and west of the main Edwards trend, and are thought to be one of the isolated shoals that developed in a restricted environment on the Comanche Shelf associated with the western flank of the Belton High. This shoal may be the western extent of the Moffat Mound, which lies just north and east of the study area (Faulkner, 2016). The regional deposition of the Owl Mountain facies follows those proposed by Rose (1972) for middle shelf deposition on the Comanche Shelf: the Llano uplift area to the southwest was an evaporite lagoon; to the east, shoal facies formed along the flank of the Central Texas Reef trend; and farther east and to the north, the waters deepened into the Tyler Basin.

...

Originally published as: Meinerts, J. A., and M. S. Faulkner, 2018, Complex reef mound environment on a Cretaceous shelf: Facies analyses and depositional environment of the Owl Mountain Province, Fort Hood Military Installation, Texas: Gulf Coast Association of Geological Societies Transactions, v. 68, p. 621–623.