

The Emergence of the Lower Tertiary Trend in the Deepwater Gulf of Mexico - Could it be the Most Prolific Petroleum System in the Gulf of Mexico Basin?

David B. Meyer, Robert Meltz, David Rains, Larry Zarra, and Thomas Hall. Exploration, ChevronTexaco, 935 Gravier Street, New Orleans, LA 70112, phone: 504 592 6359, davemeyer@chevrontexaco.com

In March 2001, the BAHA#2 was drilled and abandoned. Although a commercial disappointment, it established a working petroleum system in the Perdido Fold Belt (PFB), encountering >6,000' gross interval of Lower Tertiary Oligocene/Frio to Paleocene/Wilcox turbidite sands. The Trident discovery (July 2001) 30 miles south of BAHA and the Great White discovery (June 2002) 8 miles west of Trident, documented a turbidite progression from sheet sands to amalgamated and leveed channels >250 miles downdip from fluvial-deltaic equivalents. The hydrocarbon potential of the Alaminos Canyon PFB was confirmed.

In June 2002 the Cascade discovery was announced. Cascade is located in the Walker Ridge area of the central GoM, approximately 300 miles east of the PFB. Chinook and St. Malo discoveries followed in June 2003 and October 2003. These significant discoveries extend the Lower Tertiary Trend over 300 miles across several structural provinces from the PFB in Alaminos Canyon through Keathley Canyon to Walker Ridge. Trend water depths range from 7,000'-10,000' and objective depths from 10,000' -30,000' subsea.

Estimated recoverable reserves per discovery range from 100 – 500 mmboe, with an 83% success rate (5/6). Trend potential ranges from 3 to 15 billion barrels of oil. To date, all discoveries have a common basinal setting, distal Louann salt basin rim, and are salt-cored anticlinal closures with tectonic styles from thrust-symmetrical box-folds of the PFB in Alaminos Canyon to salt pillow structures of Walker Ridge and possibly continuing to asymmetrical thrusts of the Mississippi Fan Fold Belt in Green Canyon and Atwater Valley.
