

Campeche Escarpment

Pre- and Post-Salt Prospectivity



Spectrum Geoscience

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Summary



• Largely unexplored

- Extensive pre-salt and post-salt hydrocarbon potential
 - Pre-salt pre- and syn-rift play fairway underlying autochthonous salt
 - Norphlet / Ek-Balam ergs play fairway overlying autochthonous salt

• Approximately 50,000 km² identified as prospective so far



Tectonic Reconstructions

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Rotation of the Yucatan Block





Derivative of residual gravity anomaly

.0.303 0.011 0.323 0.602



Pole of rotation derived from ridge segment geometry 37°clockwise rotation of Yucatan block

COB = Seaward limit of Campeche salt

Oxfordian Reconstruction







Stratigraphic Well Tie Lloyd Ridge 399 ("Cheyenne")

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Lloyd Ridge 399 ("Cheyenne")



- Drilled in 2004
 - TD 8,466 m.
- Encountered
 - Wilcox (Eocene Paleocene)
 - Cotton Valley, Haynesville and Upper Jurassic formation rocks.
- Producing gas
- Tops and T-D curves from publically available data





Lloyd Ridge to Campeche Escarpment











NE

Tertiary / Cretaceous / Jurassic Section

SW



Dip Section







Tertiary / Cretaceous / Jurassic Section





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Oil Seeps and Salt Diapirs





- Strong correlation of oil seep ٠ clusters with salt diapirism.
- Good thermal maturation of ٠ potential Jurassic source rocks.

Cantarell Oil Slicks







Tupi Discovery 7.5 Bboe Recoverable





Pre-salt Structure



Campeche Escarpment





Chasing Post-salt Aeolian Sst Play Fairway

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Present Day Ergs

dinate System: WGS 1984 UTM Zone 30N (Author: philliph) 1

Sand Dunes in Erg Iguidi, Algeria







Imagery courtesy of the U. S. Geological Survey



Oxfordian Setting and Climate Models



Sellwood, B. W., Valdes, P. J., (2006) Mesozoic climates: General circulation models and the rock record, Sedimentary Geology, 190, 269-287

Norphlet



The American Association of Petroleum Geologists Bulletin V. 69, No. 6 (June 1985), P. 881-898, 16 Figs., 1 Table 1st well in 2003 in the De Soto Canyon protraction, encountered approximately 30 m of oil column within the aeolian sand.





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Gravity Slump Distribution





Gravity Slump Top and Base

M Spectrum

Summary

- Working petroleum system from oil seeps
- Pre- and Post-salt
 prospectivity
- Stacked Plays



"Pikit" (Fan in Mayan)