Monday, October 10, 2005

Westchase Hilton • 9999 Westheimer
Social 5:30 p.m., Dinner 6:30 p.m.

Cost: $25 Preregistered members; $30 non-members & walk-ups

The HGS prefers that you make your reservations on-line through the HGS website at www.hgs.org. If you have no Internet access, you can e-mail reservations@hgs.org, or call the office at 713-463-9476 (include your name, e-mail address, meeting you are attending, phone number and membership ID#).

by ***Freddy Yip*** *(speaker),* ***Jim Pear and Paul Siegele***
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Chevron North America Exploration and Production Company
Houston, Texas

The Subsalt Tahiti Field Discovery, Green Canyon 640: Opening Another Deepwater Frontier

The Tahiti Discovery, announced in April 2002, represents not only a major oil discovery in the deepwater Gulf of Mexico, but also opens an exciting new deepwater exploration frontier in ultra-deep, subsalt reservoirs. The Lower Miocene reservoirs in Tahiti Field are expected be the deepest producing reservoirs in the Gulf of Mexico when first oil arrives through the pipeline in 2008.

The prospect was located more than 35 miles from the nearest stratigraphic penetration of this interval

The Tahiti Green Canyon 640 #1 well, located in 4,100 feet of water, targeted the hydrocarbon-bearing Lower Miocene section in the emerging Mississippi Fan Fold belt trend, located in south-central Green Canyon (Figure 1). The prospect was located more than 35 miles from the nearest stratigraphic penetration of this interval, and the trend proved to be at a significantly lesser depth than was predicted. The closure tested by the discovery well is a three-way structural nose, trapped against a salt feeder/weld system, buried beneath an 11,000-foot-thick salt canopy. This trap type was considered to be much higher risk than the salt-cored, four-way anticlines previously targeted in the fold belt trend and is very difficult to image on conventional seismic data. Significant stratigraphic risks were also recognized, as pre-drill data were limited.

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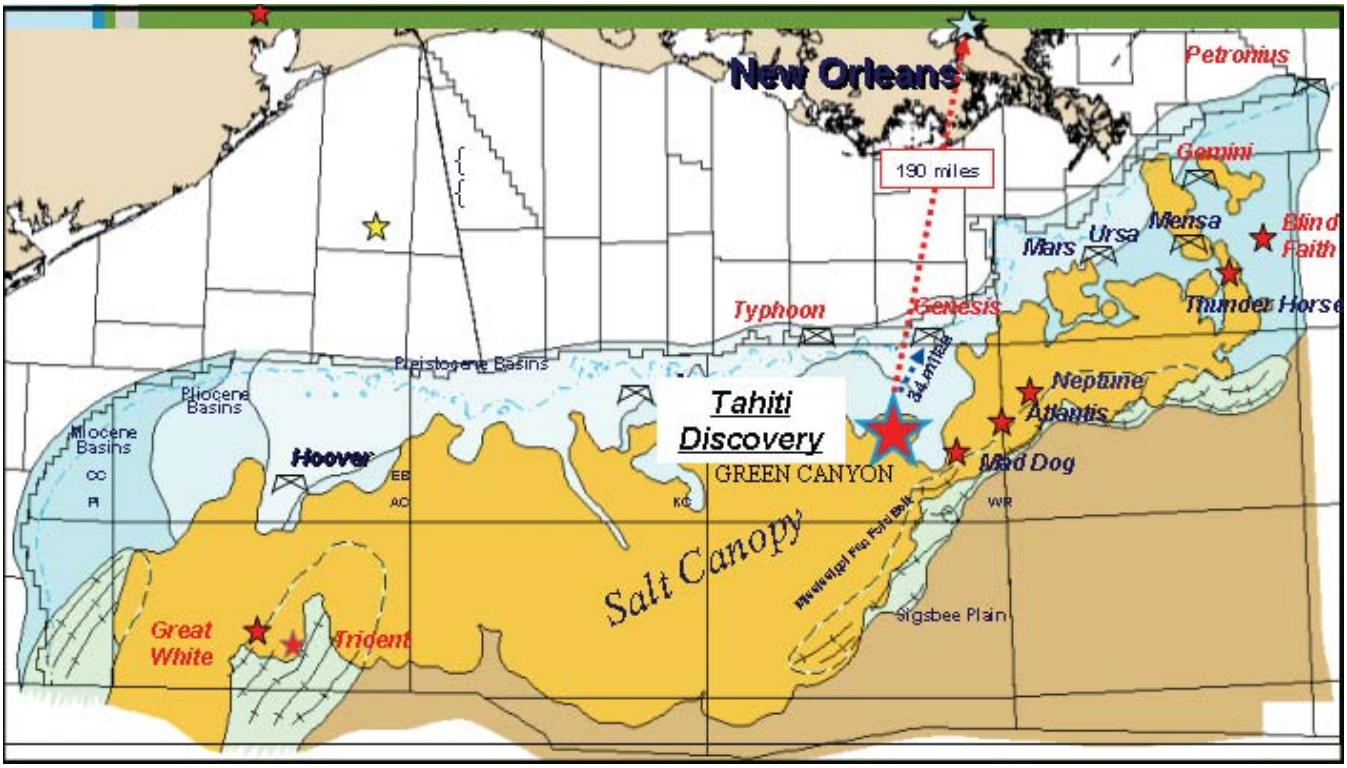

Figure 1. Location map of the Tahiti field, GC 640.

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Photo by Chevron North American E&P

Figure 2. The rig Cajun Express conducts the Tahiti GC 640 well test in August 2004.

The Tahiti discovery well, spudded in December 2001, successfully confirmed the structural and stratigraphic concepts, encountering more than 400 feet of net oil pay, primarily in three main Miocene turbidite sheet sands at depths ranging from 24,000 to 27,000 feet. Reservoirs penetrated by the well have unusually high quality sands for this depth. Subsequent sidetracking of the discovery and appraisal drilling have confirmed significant hydrocarbon columns of high-quality crude, with excellent reservoir parameters and lateral connectivity (Figure 2). Additional appraisal wells and well tests have resulted in announced recoverable resources of 400 to 500 MMBOE for Tahiti Field.

Future exploratory success for subsalt, ultra-deep reservoirs will need to mirror the successful integration of 3D prestack-depth migration imaging, regional analysis, basin modeling, and prospect scale mapping applied at Tahiti Field. Application of "lessons learned" will be critical, as additional data becomes available in this exciting, but challenging new deepwater frontier. ■

Biographical Sketches:

Freddy Yip (speaker) has been a geologist at Chevron for 24 years, and was involved in new field discoveries in South Texas, the Permian Basin and North Texas. Mr. Yip was the exploration geologist in Chevron's Deepwater Gulf of Mexico Business Unit in New Orleans assigned to mature Tahiti as a prospect in 2001, which resulted in drilling the discovery well in April 2002. After the discovery, he moved into the appraisal phase of Tahiti Field, and to his current assignment as geologist in Tahiti Project Development team. He holds MS and BS degrees in geology from Mississippi State University and the University of Florida.

Jim Pear is east exploration manager in the Deepwater Exploration/Projects Business Unit, within Chevron North America Exploration and Production Company, Houston. Mr. Pear was the exploration team leader during the discovery phase of Tahiti Field. He received a BS in geology from the State University of New York, and an MS degree in geology from the University of Kentucky. He has 26 years of work experience with Chevron in New Orleans and Houston.

Paul Siegele is vice president of the Exploration/Projects Business Unit of Chevron North America Exploration and Production Company in Houston. Mr. Siegele has a BS degree in geology from California Lutheran University and an MS degree from California State University at Northridge.