

## EXPLOITATION OF THIN OIL RIMS USING HORIZONTAL SIDETRACKS AT MC 194 (COGNAC) FIELD

**MICHAEL A. DANAHY**, Shell Offshore Inc., New Orleans, LA; and  
**JEFFREY R. SCHEIBAL**, Shell Offshore Inc., New Orleans, LA

Horizontal wells have been utilized in Cognac Field (GOM Mississippi Canyon 194) to deplete remaining oil rims in five Pliocene age deltaic sand reservoirs between 8,200 and 9,300 feet subsea. Cognac Field, discovered in July 1975, is a faulted downthrown rollover anticline developed by a 1,260-foot 62-slot conventional platform in 1,024 feet of water. Primary development drilling concluded in 1981, and a 3-D seismic survey was shot in 1987 resulting in a successful 20-well redevelopment program to address bypassed oil.

In early 1993, evaluation of remaining economic potential strongly indicated the need to accelerate the recovery of remaining oil reserves prior to gas cap blow-down. Pulsed neutron logs, combined with conventional production surveillance, delineated rims of

60 to 100 feet of true vertical thickness. Unconventional slim-hole sidetracking techniques (6-3/4" and 4-3/4" holes) were employed by a workover-class platform rig to drill 12 oil rim horizontal wells with an average completed length of 1,160 feet. Recognition and detailed mapping of depositional environments were important in planning and steering sidetracks. Over an average producing life of 12 months, a favorably positioned oil rim horizontal well produces at rates 3 to 10 times that of a conventional completion. Thin oil rims, originally classified as economically marginal, have contributed a robust 41% (5.2 MMBO) of the field's oil production since the beginning of the sidetrack program in January 1994.

#### Biographical Sketch

**Michael Danahy** received a B.S. in geology from the University of Maryland in 1976 and joined Shell's

Western Region the following year. Initial geologic work included secondary recovery projects in the San Joaquin Valley and primary development in the Rockies. Mike spent three and one-half years with two Houston independents in a variety of Gulf Coast Tertiary projects, but primarily focused on an extensive South Texas drilling program in the Lobo trend. He then joined Tenneco's Gulf Coast Division in 1984 with a four-year assignment in the onshore South Louisiana Miocene. After the sale of Tenneco in late 1988, Mike consulted for two years prior to rejoining Shell in New Orleans. His assignment for the last four years as a Staff Geological Engineer has been the further study and development of Cognac Field-MC 194. ■

*Note: The Luncheon Meeting will start at 11:45 a.m. and end at 1:00 p.m. to better fit into busy schedules.*

*Another note: The reservation code for this meeting is 5-0-5.*