

# Well problems and solutions

SPE/IADC 52811

## "EEX Corp Overcomes Major Obstacles to Complete Sidetrack Drilling Operations and Set GOM World Records"

Drilling in excess of over 28,000 ft, EEX overcame significant challenges while drilling in Garden Banks 386 in the Gulf of Mexico to achieve several GOM world records. The project's drillstring design and use of synthetic drilling fluids overcame substantial torque and drag. The synthetic drilling fluids also improved ROP and borehole stability. Drilling and underreaming were accomplished simultaneously. Records set included deepest TVD, deepest major depth, and deepest production casing.

—T Prater, V Goodwin, EEX Corp  
—W E Henn, D Gleason,  
Baroid Drilling Fluids

SPE/IADC 52808

## "System for Drilling an Offshore Shallow Sour Gas Carbonate Reservoir"

Special practices and equipment were used to safely and efficiently drill 9 development wells in the sour NSO A Field offshore Indonesia. The objective reef zone has been notorious for severe mud losses followed by gas kicks. Using the system described, safety was improved and the time to drill the carbonate reservoir was reduced from an average of 16 days down to 5 days. Equipment included a rotating blowout preventer. A special gas-handling system was installed to safely burn sour gas. Rig crews were trained to handle the gas and evacuate if necessary.

—C Leuchtenberg, Consultant  
—PR Brand, BA Tarr, Mobil Technology Co  
—P J Frink, R Quitzau, Mobil Oil Indonesia

SPE/IADC 52810

## "Best Completion Practices"

Over 100 Gulf of Mexico completions have been analyzed over 2 years, and the result is a list of best practices outlined in this paper. Completions have been categorized into 11 different types, and optimized methods for implementing each

type are listed. The work has been driven by an Alliance Process Improvement Team (APIT) to incorporate shared visions, values and solutions.

Operational risk is a key issue in all of the best practices, and well economics should define which level of risk is acceptable for a given completion. In some cases shared operational risk and reward scenarios can greatly increase the attractiveness of a particular completion operation.

—E Coludrovich, R Creech, Texaco E&P Inc  
—W Q Dyson, et al, Schlumberger

ALSO ON THE PROGRAM:

## SPE/IADC 52809: "Pressure Investigation Accomplished with Hydraulic Snubbing and Pressure Control Centric Tubular String"

—E Goodman, et al, Cudd Pressure Control  
—R V Baker, et al, Vastar Resources

## SPE/IADC 52812: "Drilling and Completion of Horizontal Wells Requiring Sand Control"

—R Burton, Conoco Inc ■

# Drilling and completion fluids

SPE/IADC 52813

## "New Open-Hole Displacement Procedure Dramatically Reduces Loss of Synthetic Fluid in Deepwater GOM"

This paper describes a new displacement procedure and modified water-base mud that successfully recovered 961 bbl of synthetic mud on the Manatee project in the deepwater Gulf of Mexico. When compared directly with conventional open-hole completions in the deepwater GOM, the new procedure resulted in a savings of \$175,000. Furthermore, no additional rig time was required to condition the water-base system used in the successful open-hole displacement. Finally, the wellbore remained stable and no problems were encountered while tripping through the 4,462-ft of open hole exposed to the fluid system.

—G Courtney, K Elliott, Shell Deepwater  
—N Smothers, et al, M-ILLC

SPE/IADC 52817

## "Novel Lime-Free HTHP Drilling Fluid

## System Applied Successfully in Gulf of Thailand"

A lime-free, high-temperature invert emulsion drilling fluid has been developed and applied successfully on several wells in the Gulf of Thailand. The subject drilling program was in a field with down-hole temperatures of 430°F. The fluid is run with a pH of less than 7.0, which is accomplished with the introduction of 1 ppb of citric acid and the elimination of the alkaline source (lime). This paper discusses the development of the lime-free emulsifier package and its application in more than 55 wells in the Gulf of Thailand. Further, the paper discusses the drilling of more than 400 wells using the various invert systems preceding the lime-free system.

—J Harrison, Unocal Thailand  
—M Stansbury, et al, M-ILLC

SPE/IADC 52816

## "Down-Hole Simulation Cell for Measurement of Lubricity and Differential Pressure Sticking"

A specially designed, fully automated downhole, simulation cell permits accurate and reproducible measurements of the coefficient of friction between drillstring and filtercake and differential pressure sticking pull-out force. Filter cake pore pressure and permeability together with axial and radial forces as a function of time are also measured. Testing principles are based on cylindrical captors (drillstring) equipped with sensors.

—P Isambourg, Elf Exploration Production  
—S Ottesen, Mobil  
—S Benaissa, Baker Hughes INTEQ

ALSO ON THE PROGRAM:

## SPE/IADC 52815: "New Permeability Plugging Apparatus Procedure Addresses Safety and Technology Issues"

—N Davis, Chevron Petroleum Tech, et al

## SPE/IADC 52818: "One Step Enzyme Treatment Greatly Enhances Production Capacity on Horizontal and High Angle Completions"

—P J Rae, F O Stanley, BJ Services  
—J C Troncoso,  
Maxus Southeast Sumatra ■