

# X-Prima™ Squeeze Eliminates Lost Circulation in Deepwater, Pre-salt Exploratory Well

Nordeste Tupi Field, Santos Basin, Offshore Brazil

### **Challenge**

Lost circulation in offshore reservoir below salt

### **Solution**

Newpark's proprietary X-Prima high fluid loss squeeze

### **Results**

Loss zones were successfully sealed

Operator adopted X-Prima as a *Best Practice for Deepwater Wells*

The Nordeste Tupi field is located 158 miles (254 km) off the coast of Rio de Janeiro in the Santos Basin in water 6,970 ft (2,124 m) deep. A microbial calcium carbonate reservoir below the salts, characterized by great vugular pores, proved to be the field's main challenge. Several previous wells in the field encountered severe lost circulation and resulted in huge volumes of fluid loss and increased days to drill the interval. The most critical point would be drilling the transition between the salt formation and the top of the reservoir, at which point salt creep and lost circulation were most likely to occur.

Because severe losses were expected in the calcium carbonate reservoir, high amounts of lost circulation material (LCM) were kept on the rig, and a calcium carbonate (CaCO<sub>3</sub>) pill was available in the slug pit. If the CaCO<sub>3</sub> pill was not successful at plugging the openings, the operator planned to run a squeeze operation using X Prima squeeze combined with NewBridge™ LCM. A sufficient quantity of material for three pills was sent to the rig. During the 12¼-in. coring interval, losses were observed. The CaCO<sub>3</sub> pill was pumped without success while the X-Prima pill containing NewBridge LCM was prepared. Losses continued during static conditions.

The calcium carbonate formations below the salt presented major challenges in the pre-salt wells. The success of the X-Prima pill minimized losses and allowed completion of the coring operation while reducing the non-productive time. With X-Prima pill's proven results, the operator adopted the practice of stocking X-Prima materials and NewBridge LCM on all pre-salt wells, regardless of the service company providing fluids material and services.