

# DEEPCLEAN Additive Effectively Cleans Deepwater Well Shut-in for 10 Years

“The DEEPCLEAN\* product proved to be highly efficient at cleaning a challenging deepwater well, despite less-than-ideal pumping conditions. Thus, the operator was able to successfully re-enter a well shut-in for 10 years.”

John Carboni, Project Engineer, M-I SWACO

## Well Information

Location ..... Mississippi Canyon, Gulf of Mexico  
 Completion Date..... Nov. 29, 2009  
 Interval completed..... TD at 12,331 ft MD (3758 m)  
 Hole volume ..... annulus – 2,500 bbl, work string – 189 bbl  
 Displacement type..... Indirect

## The Situation

A Gulf of Mexico operator planned to re-enter a well that had been shut in for at least 10 years with 10.5 lb/gal (1.2 sg) synthetic based mud. The operation would require drilling a sidetrack before attempting to complete the well. Owing to the unknown condition of both the mud and casing, the operator required an additive that offered the best possible efficiency for cleaning and water wetting the casing.

## The Solution

The operator selected a wash spacer formulation incorporating the new dual purpose DEEPCLEAN product, which also was specified as an additive in the transition spacer. The DEEPCLEAN product is engineered for thorough and efficient cleaning of technically demanding well cleanups. DEEPCLEAN product was especially designed and tested to outperform other cleaning products even in laminar flow. In addition, the displacement was designed using M-I SWACO best practice design techniques.

## The Results

After circulating only 200 bbl of seawater, the NTU reading was less than 100, indicating a successful casing cleanup and displacement. Further evidence of a successful cleanup was observed when the well was displaced with the clear brine and the final NTU reading was reduced to 25 with only a trace of solids.

## The Details

The spacers were mixed on the rig with the following formulation:

Spacer design	Base Fluid	Other Components	Density (lb/gal)	Total Volume
Base Oil	Base Oil	N/A	6.8	100 bbl
Transition	Seawater	DUO-VIS*, 10% ECF-1840	11.5	200 bbl
Wash	Seawater	20% ECF-1840	7.9	440 bbl
Viscous Sweep	Seawater	DUO-VIS	8.4	260 bbl

After the spacers were mixed, they were pumped in the prescribed sequence into the work string. Upon arrival of the transition spacer at the surface in the annulus, the pumps were stopped while the crew cleaned out the gumbo box and shakers. This was an unfavorable situation as it resulted in the spacers being static in the riser annulus for 2 hr, which potentially can lead to solids falling back into the wellbore and degradation of the spacers. After 200 bbl of seawater were circulated behind the spacers, the NTU reading indicated the hole was clean. Subsequent cleanup tools were POOH with no evidence of residual mud left in the hole. Further, all of the downhole equipment deployed after the displacement showed no indicators of problems associated with mud residue.

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**Questions? We'll be glad to answer them.**

If you'd like to know more about the DEEPCLEAN product and how it's performing for our other customers, please call the M-I SWACO office nearest you.



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