

عنوان مقاله:

Experimental Investigation of Wellbore Damage Reduction Using Carbon-Based Nanomaterial Drilling Fluid

محل انتشار:

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خلاصه مقاله:

Carbonate reservoirs in Iranian oilfield are drilled by using invert oil-based mud. There are many problems associated with this drilling fluid such as wellbore instability, loss circulation and differential sticking. The extent of these problems may be reduced greatly with nonmaterial particles called Carbon Black. Carbonbased drilling-fluids aid in wellbore damage reduction by controlling losses in permeable carbonate reservoir. A unique feature of the Carbon black particles stopping or slowing the entry of fluids into the formation, creates downhole bridging. We present laboratory evidence to show that fluid invasion is greatly reduced. This brings other important benefits: 1. Differential sticking is greatly reduced. 2. Well productivity is increased. 3. Wellbore stabilization is increased. Also, the author discusses the mechanism by which the additive provides superior invasion control, and the ease with which the protective barrier is removed from producing intervals.

کلمات کلیدی:

Drilling fluid, Nanoparticle, Carbon black, Formation Damage Reduction

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