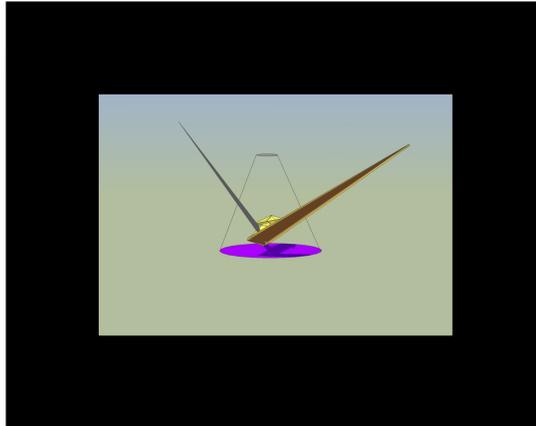


UNIQUE DRILLING FLUIDS

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PRODUCT DATA



TOTAL-EASE

Synthetic Oil Base Drilling Fluid system

Oil based drilling fluids are ideal in special drilling conditions such as drilling high-temperature deep wells and drilling through NaCl, anhydrite and gypsum formations. It is also favorable when drilling through water-sensitive shale sections and drilling through producing zones. Field engineers love when they are assigned to mix the fluid system because of the minimum maintenance required. Some refer to it as easy money, which is how our name TOTAL-EASE derived.

The system relies on an external and internal phase whereby oil is continuous or external and water is internal. It is an invert emulsion system whereby the water content exceeds 15% by volume. TOTAL-EASE's reverse osmotic migration, removal of water from shale, prevents shale swelling. Nonetheless, the system is carefully designed so that the shale is not overly dehydrated which can lead to another set of problems. ORGANO-EASE, an inorganic bentonite precursor that had its surface chemistry changed due to reactive quaternary amine and its attraction to the clay's negative surface, provides the initial viscosity by allowing oil wettability. This vital component of TOTAL-EASE is considered an essential bodying agent. UDF's emulsifier package consists of MUL-EASE I (primary) and MUL-EASE II(secondary). These two special products reduce the surface tension in the oil/water ratio and provide exceptional emulsion stability throughout the

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GIVES THE WELL WHAT IT NEEDS

drilling process. They also emulsify any unwanted formation H₂O entering the system. Weighting material and colloidal fluid loss additives are added to our system to create the optimum density and premier wall plastering characteristics. This is accomplished by the aggregation of colloidal additives and their ability to form micelle networks throughout the continuous phase. Consequently H₂O molecules are tied up in the network and filtration is maximized. TOTAL-EASE is a cost effective solution to wellbore stability and decreases drill time. Please contact UDF, Inc. technical division for consultation on our quality products and systems.

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