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**Rice Husk as an additive for Drilling Fluid: A rheological and filtration loss investigation for Water based Drilling fluid**

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**Abstract**

Requisition of efficient use of imprudent by- products for the enhancement of drilling fluid is preferentially beneficial for a hassle-free and relentless drilling process. Intricately designed drilling fluids have been used in the petroleum industry having significant properties to meet many operational requirements. The conventional methods are proven to be efficient in the current scenario, but they have limited capability and may not be suitable for future drilling operations due to the increasing challenges in the petroleum industry. A need exists for a strong, stable and customizable fluid which can not only satisfy the basic functions of a drilling mud, but also make productive use of waste products for its enhancement. Rice husks can be defined as the by-product generated by rice milling, since it is generated in large quantities, it is economical and easily available. Rice husks does not have any adverse effects on the environment. During the growing period of rice, the rice husks acts as a protective covering to the rice ,its utilization is not only limited to that , it can also be used as building material , fertilizer, insulation material and fuel . In the work we have attempted to use to use Rice Husk as an additive in Water Based Drilling Fluid (WBDF). The main components of Rice Husk are silica, cellulose and lignin. Rice plant collect Silicon from earth and store it in the hull. Study show that 50-70% of SiO<sub>2</sub> is present in Rice Husk Ash (RHA). Comparative analysis of the rheological and filtration loss properties for different sample of Drilling fluid been studied. Based on the comparative study it is observed that Rice Husk can be used as an additive to WBDF to maximize rheological and filtration loss properties. Hence, this paper will give the practicing engineer a thorough and complete outlook of the regularly faced challenges and will convey the scope in coming years. In our future studies we will focus to improve this paper such that it is beneficial for the future engineers and the developing technologies

**Keywords:**

Rich Husk, rheology, drilling fluid

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