

The experimental assessment and study of ubi kayu starch as fluid loss control agent in water based drilling fluids

ABSTRACT

The efficiency of a drilling mud, particularly the additives is valued by standard measurement of specific characteristics of the formation. This study presents an investigation on ubi kayu starch as a fluid loss control agent in water-based drilling mud (WBM) formation. The rheological and fluid loss behavior of ubi kayu-WBM (in 75, 100 and 150pcf of mud weight) was studied in various drilling condition (250, 275 and 300°F). The rheological values of samples were increased by mud weight, while decreased by temperature increment, Mud samples were found in a mild-acidic to neutral stated after drilling process (pH 6.1 to 7.4). Ubi kayu displayed an adequate fluid loss (under light, average and heavy mud weights with the values of 1.4, 0.8 and 0.4ml, respectively. only average weight mud samples exposed an acceptable fluid loss volume (0.4ml). Similar to cassava derivatives (fufu and ijebu garri) which were investigated in authors pervious papers, ubi kayu starch also failed as a fluid loss control agent (with volume ranging from 60 to 250ml). This study indicates the prospective of ubi kayu starch as a fluid loss additive in WBM formation.

Keyword: Fluid loss control agent; Rheology; Starch; Ubi kayu; WBM