



BYPASS DIVERTER BOX FOR DRILLING MUD SEPARATION
UNIT

ABSTRACT OF THE DISCLOSURE

A bypass diverter box disposed upstream from conventional solids control equipment of a mud system of a drilling rig contains a drilling mud separation unit having a continuous-loop scalper screen that is driven in a continuous loop to separate, convey and discharge large amounts of gumbo, heavy clays and drill solids at the end of the separation unit. The flow divider box is a box-like housing with a diverter plate, upper and lower baffle plates and a grate that allows drilling fluid or drilling mud to be selectively directed to the mud separation unit to be separated prior to passing to the conventional downstream solids control equipment or allows the fluid to bypass the separation unit and flow directly to the conventional solids control equipment. The bypass diverter box baffle plates, diverter plate and grate, and selective utilization of the mud separation unit removes large amounts of gumbo, heavy clays and drill solids from the drilling mud and allows high flow rates to be easily processed by shale shakers and other conventional downstream solids control equipment of the mud system and compliments the drilling operations with respect to changes in the lithology, geological formations, or loss of returns in relation to the gallons pumped or volume of drilling fluid or drilling mud entering the bypass diverter box.

Figure 1