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(54) Abstract Title: **Drilling systems and methods**

(57) A drilling system comprising a pipe comprising a first end and a second end; a drill bit near a first end of the pipe, adapted to drill a hole in a formation; a pipe rotator near a second end of the pipe adapted to rotate the pipe; and a pump connected to the pipe between the first end and the second end, the pump adapted to transport a fluid from the first end of the pipe to the second end of the pipe, the pump comprising a first portion adapted to rotate with the pipe and a second portion adapted to remain stationary relative to the pipe.

