

ABSTRACT

MECHANICAL TUBE WAVE SOURCES AND METHODS OF USE FOR LIQUID FILLED BOREHOLES

The current application discloses methods and systems for generating mechanical tube waves in fluid filled boreholes penetrating subterranean formations. In one embodiment, the system of the current application comprises an energy storage chamber; a fast operating valve connected to the energy storage chamber; a pipe connected to the valve and extending to the liquid-filled borehole; where said energy storage chamber contains a first pressure that is substantially different from a second pressure in the pipe so that a fast operation of the valve generates a tube wave in the pipe.

FIG. 1