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- (71) Applicant (for all designated States except US): **MAN-AGED PRESSURE OPERATIONS PTE. LTD.** [SG/SG]; 1 Maritime Square, #12-04A, Harbour Front Centre, 099253 (SG).
- (72) Inventor; and
- (71) Applicant (for US only): **LEUCHTENBERG, Christian** [DE/SG]; Apt 06#103, Block 42A, Caribbean Apartments Keppel Bay Drive, Singapore 098656 (SG).
- (74) Agent: **FORRESTERS Bø**; Chamberlain House, Paradise Place, Birmingham West Midlands B3 3HP (GB).

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(54) Title: METHOD OF DRILLING A SUBTERRANEAN BOREHOLE

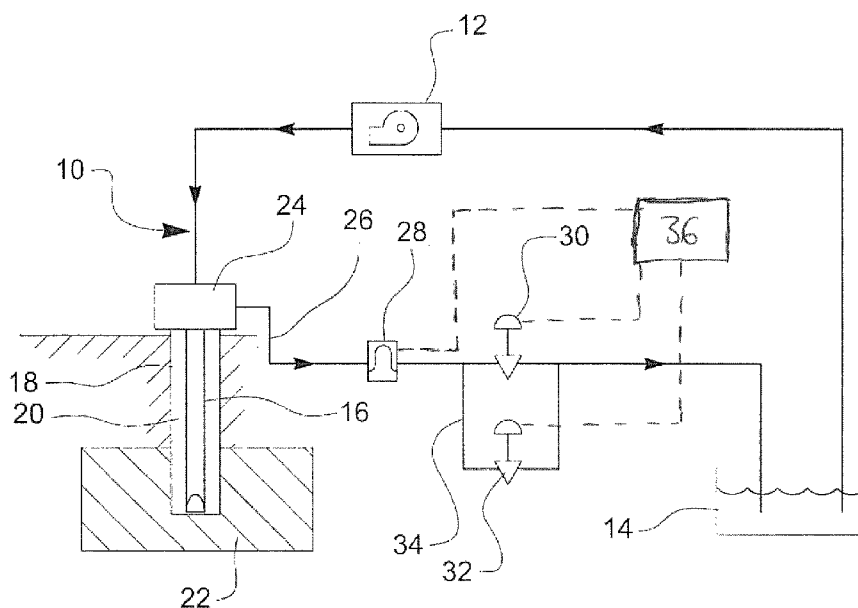


FIG 1

(57) Abstract: A method of drilling a subterranean wellbore using a drill string comprising the steps of: a. injecting a drilling fluid into the well bore via the drill string and removing said drilling fluid from an annular space around the drill string (the annulus) via an annulus return line, b. oscillating the pressure of the fluid in the annulus, c. determining the wellbore storage volume and wellbore storage coefficient for each fluid pressure oscillation, d. using the wellbore storage volume and wellbore storage coefficient to determine the proportion by volume of gas and proportion by volume of liquid in the annulus during that pressure oscillation.