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- (71) **Applicant (for all designated States except US):** HAL-LIBURTON ENERGY SERVICES, INC. [US/US]; 10200 Bellaire Boulevard, Houston, TX 77072 (US).
- (72) **Inventor; and**
- (75) **Inventor/Applicant (for US only):** IRANI, Cyrus, A. [US/US]; 10200 Bellaire Boulevard, Houston, TX 77072 (US).
- (74) **Agent:** HIGGINS, Sheri, L.; Sheri Higgins Law, P.L.L.C., 4106 University Boulevard, Dallas, TX 75205 (US).
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(54) **Title:** METHODS OF PREDICTING A RESERVOIR FLUID BEHAVIOR USING AN EQUATION OF STATE

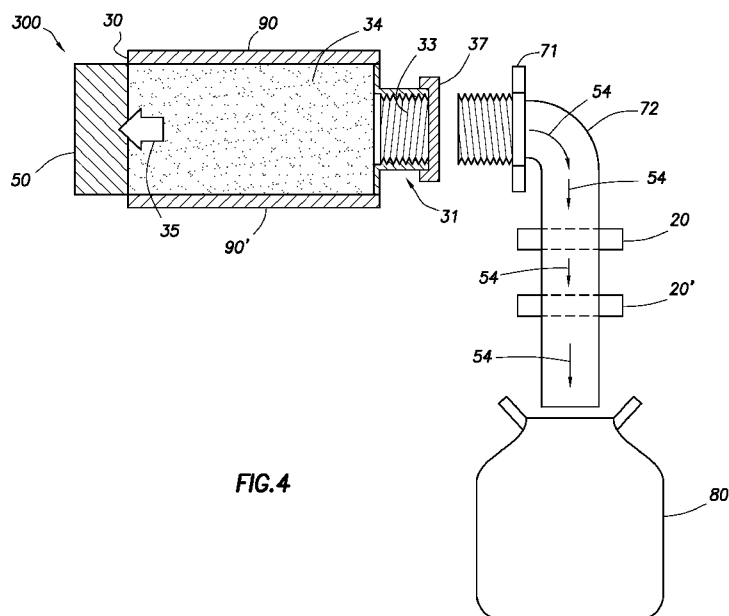


FIG. 4

(57) **Abstract:** A method of using data obtained from a sample of a reservoir fluid comprises: collecting the sample in a sample container, wherein the sample container includes a sample receptacle, and wherein the step of collecting comprises allowing or causing the sample to flow into the sample receptacle; determining at least one compositional component of the sample using an analyzer, wherein the step of determining is performed during the step of collecting; and using an equation of state to predict a potential change in at least one property of the reservoir fluid based on the determination of the at least one compositional component of the sample. Another method comprises: transferring the sample from the sample container to a second container, wherein the step of determining is performed after the step of collecting and during fluid flow of the sample.