

NEW PATENTS

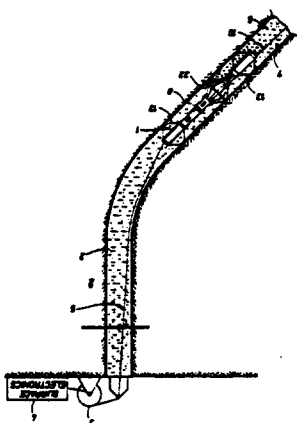
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4441361

METHOD AND APPARATUS FOR MEASUREMENT OF FLUID DENSITY AND FLOW RATES IN MULTI-PHASE FLOW REGIMES

Norman R Carlson, Raymond Roesner, Edward W Lanuke assigned to Dresser Industries Inc



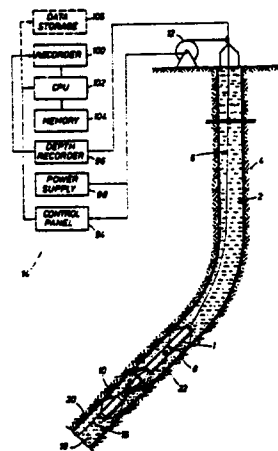
In a well containing a multi-phase fluid flow regime is disposed an elongated body member with a funnel configuration attached thereto for the purpose of collecting and mixing the multiple fluid phases. An aperture is provided in the body member, proximate to the apex of the funnel configuration, to allow discharge of the substantially homogeneous mixture of the fluid phases from the funnel through a passage in the body member. A rotor is acted upon by the flow of this mixture and generates a signal representative of the mixture flow rate. A portion of the mixture then enters a chamber in the elongated body member wherein a measurement is made of the degree of penetration of the mixture achieved by gamma radiation, thereby yielding a measure-

ment representative of the density of the mixture. The flow rates and volumetric fractions of each of the individual phases may then be determined in accordance with the mixture density and total flow rate.

4441362

METHOD FOR DETERMINING VOLUMETRIC FRACTIONS AND FLOW RATES OF INDIVIDUAL PHASES WITHIN A MULTI-PHASE FLOW REGIME

Norman Carlson assigned to Dresser Industries Inc



A reference is established indicating the functional relation between differing proportions of one fluid phase within a mixture of a plurality of fluid phases to the dielectric response of that mixture. Measurements are taken within a well wherein the well fluid consists of multiple fluid