

phases, of the flow rate, density and dielectric response of the well fluid. The dielectric response measurement is related to the established reference to determine the apparent proportion or volumetric fraction of one fluid phase of the well fluid. The density measurement is utilized to determine the volumetric fraction of the same phase of the well fluid. These equivalent volumetric fraction determinations are utilized to adjust the established reference in response to the density-determined volumetric fractions such that subsequent dielectric response measurements within the well fluid may be correlated to such adjusted reference and thus may be translated into appropriate volumetric fraction values with improved accuracy. These volumetric fraction determinations may then be related to the flow rate measurement made within the well to obtain the flow rates of the individual phases of the well fluid at the depths at which the described measurements were made.

4442080

**FLUID BED SOX/NOX PROCESS-
HYDRATED CALCINE
ABSORPTION**

James Donnelly, Karsten Felsvang, Per Morsing, Preston Veltman, Bailerup, Denmark assigned to A/S Niro Atomizer

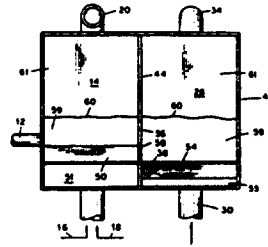
A process for simultaneous removal of sulfur oxides (SOx) and nitrogen oxides (NOx) from gaseous mixtures (such as flue gases and industrial waste gases) containing them which comprises contacting the gaseous mixture with a particulate alkaline earth hydroxide and reaction products of the gaseous mixture and the hydroxide maintained in a moving bed reactor (preferably a fluid bed reactor) at a temperature of about 85 degrees C. to about 150 degrees C. in the presence of water vapor and oxygen and in the substantial absence of liquid water. A baghouse or other particle removal means preferably is employed to extract solid material such as fly ash and reaction products from the gaseous mixture being treated and to further capture unreacted SOx/NOx.

4447297

**COMBINED FLUIDIZED BED
RETORT AND COMBUSTOR**

Jer-Yu Shang, John E Notestein, Joseph Mei, Li-Wen Zeng assigned to The United States of

America as represented by the United States Department of Energy

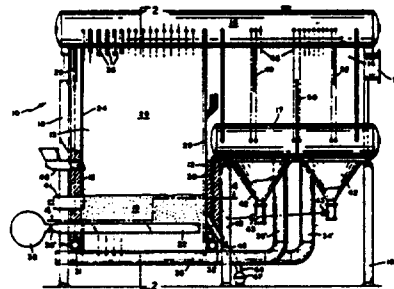


The present invention is directed to a combined fluidized bed retorting and combustion system particularly useful for extracting energy values from oil shale. The oil-shale retort and combustor are disposed side-by-side and in registry with one another through passageways in a partition therebetween. The passageways in the partition are submerged below the top of the respective fluid beds to preclude admixing or the product gases from the two chambers. The solid oil shale or bed material is transported through the chambers by inclining or slanting the fluidizing medium distributor so that the solid bed material, when fluidized, moves in the direction of the downward slope of the distributor.

4449482

FLUIDIZED BED BOILERS

Albert Leon, Daniel E McCoy assigned to Dorr-Oliver Incorporated



A fluidized bed boiler having a water-wall type construction has a steam-water natural circulation system for heat exchange. Vertical in-bed heat exchange tubes are provided and the steam drum of the boiler extends across the full length of the boiler combustion chamber and the convection heat exchange chamber. An air distributor grate is provided for introduction of