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Influence of interfacial area on the rheological behavior of heavy oil emulsions ENRIQUE SOTO, PATSY V. RAMÍREZ-GONZÁLEZ, ROCÍO G. DE LA TORRE, JOSÉ M. GUADARRAMA-CETINA, SERGIO H. QUIÑONES-CISNEROS, Univ Nacl Autonoma de Mexico — Experimental observations of the rheological behavior of heavy oil emulsions ARE presented. The emulsions were prepared from mixtures of the oil and brine in different rations and controlled mixing conditions. It was observed that the oil is the continuous phase and the brine the dispersed one. The drop size distribution and water fraction were measured from digital images obtained by a camera and a microscopy. The viscosity of the emulsions increases, when the drop size decreases and The interfacial area increases. The fluid exhibits a shear thinning and elastic rheological behavior below a critical drop size and concentration. The emulsions are stable for long periods of time. The increase in viscosity and non Newtonian behavior are strongly related to the interfacial area.

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