

Factors Influencing the Rheology of Methane Foam for Gas Mobility Control in High-Temperature, Proppant-Fractured Reservoirs

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Supporting Information

Pressure Trends of Previously Tested Foaming Surfactants

This system was previously used to complete flood evaluation with two anionic surfactants: Surfactant A and Surfactant B. These floods were completed in the same pack as the other surfactant formulations discussed in this paper: a stainless-steel column 1 foot in length and 1 inch in diameter packed with Ottawa, white sand sieved to 30/50-mesh. The presented data was for floods at a temperature of 388 K, a total flow rate of 0.0141 cm/s, and an FQ of 90%. The 5-wt% surfactant solutions were made using the same 30,000-ppm brine and co-injected with methane into a proppant pack free of oil. It can be seen in Figure S1 below that Surfactant A exhibits no dependence of foam viscosity on system pressure, while Surfactant B shows an increase in foam viscosity with system pressure.

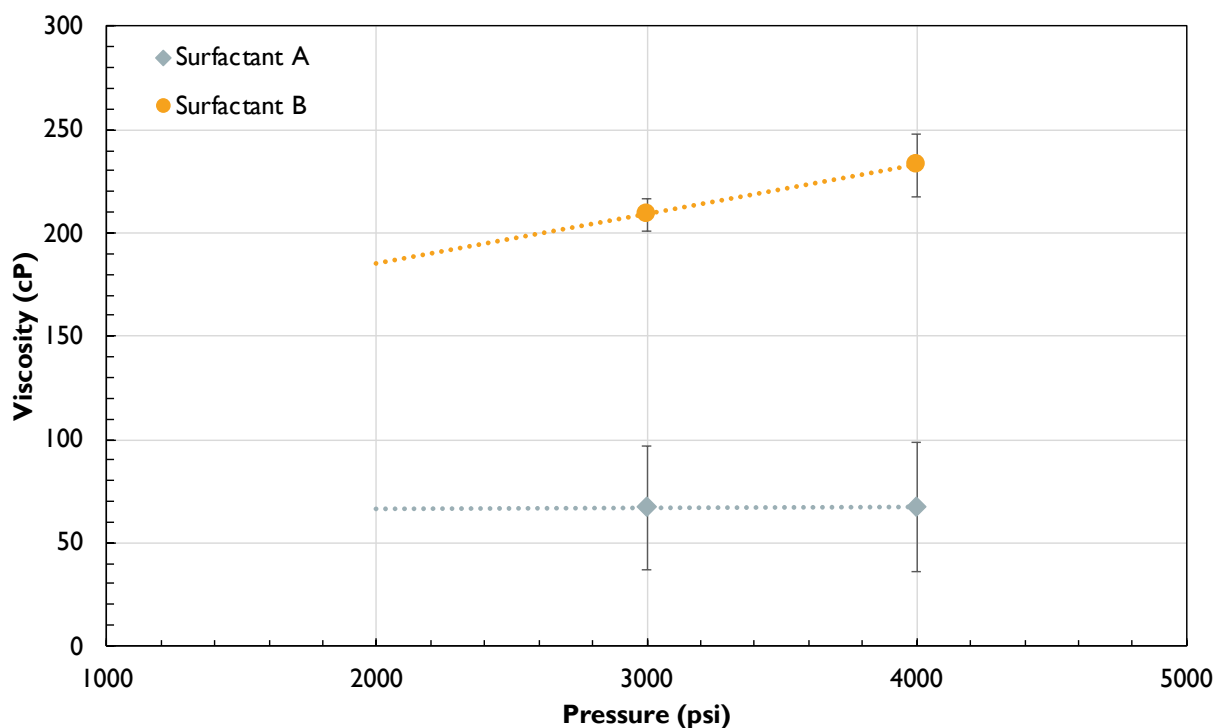


Figure S1. Pressure sensitivity analysis for Surfactant A and Surfactant B