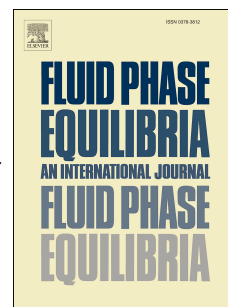


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# Experimental Measurement and Thermodynamic Modeling of Equilibrium Condition for Natural Gas Hydrate in MEG Aqueous Solution

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**Abstract** - Comprehensive information about the hydrate formation and dissociation conditions is necessary for design and operation of different processes in the petroleum industry. This study investigated the natural gas hydrate equilibrium conditions in the presence of mono ethylene glycol aqueous solution as a widely used thermodynamic hydrate inhibitor in the oil and gas industries. Stepwise heating method was used for the hydrate formation and dissociation tests in a 250 cm<sup>3</sup> stainless steel equilibrium cell. To validate and verify the performance of the apparatus and the method used, methane hydrate equilibrium data were measured and compared to a number of selected experimental data in the literature. This verification showed that both the apparatus and the procedure were accurate. The

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