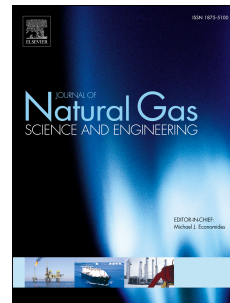


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Simulation Analysis of Stripping Fractionation Process of Gas Condensate Treatment and Practical Application

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Abstract: Stripping fractionation is posed an advancing and promising process for gas condensate stabilization and desulfurization. Most of H₂S, light mercaptan and part of organic sulfur are removed while the condensate is stabilized in same column, reducing the capital investment for conventional condensate treatment process. In terms of this newly designed process, two approaches for raw liquid inlet to a stabilizer were considered, i.e. split-flow and straight-through for comparison purpose between them and their respective scope of application. The whole process was simulated by ASPEN HYSYS software. According to the simulation results in conjunction with the running experience in a natural gas processing plant in Mary, Turkmenistan, the priority of this new process in the field of condensate treatment has been demonstrated, meeting the requirement of Reid Vapour Pressure (RVP) and sulfur concentration restriction. Finally, the split-flow approach with the optimal split ratio range from 10% to 30%, was inherently beneficial related to economic aspects in large processing scale case. Also, the economical analysis of split-flow method was involved in detail.

Key words: Gas condensate; Stabilization and desulfurization; Stripping fractionation process; Split-flow; Straight-through

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