

## Upgrading of Bitumen by Ultrasonic treatment

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Crude oil becomes heavier with higher viscosity making it hard to be handled in refinery processes. Conventional upgrading process needs large amounts of energy and chemicals with high capital investment for safety under harsh condition. An ultrasonic process treat reactant at room temperature and ambient pressure for upgrading. During the process, local cavitation effects make hot spots with high temperature and pressure. In this study, bitumen was treated by ultrasonic micro horn with hydrogen donor solvent with and without catalyst. Reaction products were analyzed using ASTM-D6560.