

Process design of CO₂ recovery processes for CO₂ EOR applications

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For CO₂ EOR (enhanced oil recovery) applications, CO₂ recovery is necessary to recycle CO₂ separated from the mixture produced oil well, containing light hydrocarbon, heavy hydrocarbon and water. Heavy hydrocarbon and water are separated with a 3-phase separator and a dehydration unit, and light hydrocarbon is separated during CO₂ separation process. TEG (triethylene glycol) is typically used for solvent in dehydration processes, while distillation column coupled with selexol process is used for CO₂ separation. This study is focused on analyzing different design configurations for CO₂ recovery and developing the most appropriate flowsheet, together with cost-effective operating conditions and design parameters. Design issues and challenges associated with year-by-year change in oil production throughout the life cycle of EOR will be systematically addressed.

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