## CALCIUM REMOVAL FROM HEAVY CRUDE OIL USING CALCIUM REMOVAL AGENT

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Recently, the energy demand increase because the huge population countries, such as China, India, and Brazil, stimulate economic growth. Thus, the demand of petroleum, which is located in the center of enegy, also increase. But the production of easy oil (light crude oil), which the base chemical of petroleum production, reach the limit and the supply was not meeting the demand on the market.

Most of international oil companies (IOC) and national oil companies (NOC) are interested in the heavy crude oil. Further, these companies in the keen international competition are interested in the heavy crude oil which contain the high impurity contents, such as S, Ca, organic acids and metals because refinery company secure the more margin of refinement by the elimination of impleties.

In this study, calcium removal from heavy crude oil was conducted using washing water containing calcium removal agent. The experiment was conducted with changing operating variable for studying the effect of operating variables