

Enhanced Oil Recovery Potential of Lloydminster Heavy Oil Reservoirs

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Abstract

Lloydminster area that straddles Alberta and Saskatchewan border contains vast amounts of heavy oil deposits in thin unconsolidated formations. Cold Heavy Oil Production with Sand (CHOPS) has been successfully implemented as primary recovery technique in these reservoirs. However, primary recovery is low averaging below 10%. How to economically recover the large amount of remaining oil in place is a challenge. Therefore, follow up recovery processes are required to recover more of the remaining oil. Currently there are no commercially proven Enhanced Oil Recovery (EOR) technologies for the thin heavy oil reservoirs of Lloydminster. Steam injection technologies cannot be widely applied because in a thin zone the heat losses to overburden and underburden make the process uneconomic. Because the oil viscosity is so high, waterflooding at such adverse mobility ratios is generally ineffective. This presentation will discuss some of the alternative EOR technologies that are being tested both in the laboratory and in the field. Furthermore, Husky's field piloting strategy of CO₂ capture technologies will also be discussed.

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