Teng Lu et al., J Pet Environ Engineering 2015, 6:5
http://dx.doi.org/10.4172/2157-7463.C1.013

OMICS International
conferenceseries.com

International Conference and Expo on
Oil and Gas

November 16-18, 2015 Dubai, UAE

Recent development in enhanced ultra-heavy oil recovery in China

Teng Lu, Zhaomin Li, Binfei Li and **Songyan Li**
China University of Petroleum, China

Heavy oil is an important part of the world's energy supply and is increasingly being exploited as the demand for petroleum increases. There are abundant ultra-heavy oil resources in China. This paper briefly introduces two enhanced ultra-heavy oil recovery techniques in China including CO_2 and dissolver assisted steam huff and puff technology for horizontal wells (HDCS) and Gas-SAGD (Adding N_2 in the process of SAGD). The HDCS technique is developed to the ultra-heavy oil reservoirs in the Shengli Oilfield because of high oil viscosity, deep and thin layer, high rate of resin and asphaltene. The HDCS combines the techniques of efficient oil-soluble dissolver, CO_2 immiscible and steam huff and puff which can effectively reduce the steam injection pressure, expand the steam swept area and improve oil production rate. Field tests show that HDCS is good at reducing viscosity and improving production of super-heavy oil reservoirs. The Gas-SAGD is developed to the Guantao reservoir of Du 84 block in Liaohe oil field. The oil layer of Guantao reservoir has a direct contact with the top water. As the steam chamber rises in vertical direction, the heat of steam will soften bitumen shell under top water. The Gas-SAGD can improve the condition of steam chamber and prolong the life time of SAGD. As of June 2011, the Gas-SAGD has been applied in three regions which include seven slugs. Field tests show that it is effective in reducing steam 1.391×10^5 t, increasing oil production 2.07×104 t and improving steam oil ratio 33.3%.

Biography

Teng Lu received a Ph.D. in oil-gas field development engineering from China University of Petroleum in 2014. His research emphases include enhanced heavy oil recovery, CO_2 EOR and sequestration and foam flooding.

lutengyujing@126.com

Notes: