

# **ESP DESIGN ANALYSIS FOR HIGH GOR WELL ON WELL X FIELD Z**

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## **ABSTRACT**

*A production well planning will always consider all aspects, one of which will be related to the success of a program designed to achieve the most optimal way. The problems that often occur from ESP failure one of them is often happened gas lock. This refers from the accumulated gas in the long column inside the pump so that the pump no longer produces exhaust pressure, gas locking occurs, the amount of gas handled by the pump without the threat of gas lock (JPT Staff, 1998).*

*The solution that must be faced is by using Advance Gas Handler (AGH) to prevent the occurrence of gas lock. Advance Gas Handler (AGH) is a unit of high speed multicage centrifugal pump designed specifically for ESP in high gas-containing wells, where wells have a gas fraction of up to 75%, the device is mounted under the pump. The Advance Gas Handler (AGH) device works by reducing the size of the vapor bubbles and altering the gas bubble distribution, uniforming the liquid gas mixture so as to function a single-phase fluid before entering the pump (Ali Suat Bagci et al. 2010).*

*The result of gas percentage calculation in 5741 feet with GOR 300 on well x obtained 13%. It is therefore necessary to add an AGH unit to ensure that the incoming fluid does not affect pump performance. The result of pump design based on TDH then got DN 1300/143 stages / 40 HP. The cumulative production for 2 months is 1052 BFPD at frequency 50 Hz with stable gas production and pump parameters.*

**Keywords:** *Volume Gas, Setting pump deep , GOR, water cut, Advance Gas Handler (AGH)*