Mike Gunningham SPE Papers – Link: https://www.onepetro.org/

Reference	Title	Year	Authors	Abstract
24940-MS OTC Conference Paper	Advanced Well Performance Analysis and Monitoring on Al Shaheen Field	2014	Malakhov, Denis, Maersk Oil Qatar Gunningham, Michael, Maersk Oil Qatar AS Al-sadah, Abdulla, Qatar Petroleum Al-Suwaidi, Abdulla, Qatar Petroleum	An opportunity to establish a certain level of confidence in the well models by analysing entire production history or even performing analysis in real time becomes a reality of today. This paper is intended to describe an engineering approach to the analysis that was tailored to the Al Shaheen field to better understand the well performance, gain confidence in the models and identify various well issues and opportunities. The challenge of understanding how wells perform is always associated with comprehensive data mining and significant time spent on analysis and calculations. However the data available is always limited and often requires quite a few assumptions to be made by an engineer when building a representative and reliable well model. All industry standard software packages utilise same or similar well-known concepts and types of analysis from simple equations to more comprehensive algorithms. These are like pieces of the puzzle that can be assembled together to help petroleum engineer to get an idea of how the well should perform in particular circumstances. The way petroleum engineers applying these concepts on daily basis may vary depending on the nature of the problem they are facing and the amount of data they have available. Quite often the fact that the model does not match the reality is used to invalidate existing data and an opportunity to understand that something is happening in the well that is not captured by the model is overlooked. Reasons for this may include an existence of a particular purpose of the well model, level of engineer's experience, skills or imagination, lack of required data or at the end an inability to process the entire production data in an efficient way. The last becomes a real challenge on the fields with large amount of wells and extensive production history. Synergy between adopted analysis and the technology has allowed engineers to gain a much better understanding of the well performance, identify various issues and opportunities and enabled them to keep focus on making decisions as to which wells to optimise and those to troubleshoot to maximise potential of the existing well stock.