

Low Cost, High Profit Rejuvenation of Mature Fields

Mike Gunningham (Mike Gunningham Consultancy)



Abstract:

This talk looks at practical strategies, processes and applications for mature fields, focusing on reducing operational costs and maximizing value creation from existing wells and facilities. You will take away tools and processes that you can apply quickly, efficiently and low cost, to maintain and maximize production and injection. In mature field operations, the primary focus is on safety and keeping costs down. We will show that Production Optimization can rejuvenate a mature field and can extend its profitable life. This is done by building integrated teams, using data analytics, carrying out Produce the Limit workshops and identifying opportunities to debottleneck, rejuvenate and optimize wells and facilities. It is important to look just as closely at water injection, as well as oil and gas production, to optimize reservoir management and maximise recovery. We will demonstrate that by identifying and capturing these opportunities, ranking and prioritizing them, the team can then focus on efficient and effective delivery. This maintains, restores or increases production and injection, which extends profitable field life, maximizes recovery and reduces unit costs. A number of case studies will demonstrate that with whatever data you have, you can always find opportunities to increase production. This is done by safely manipulating the operating envelopes of existing wells and facilities, carrying out systematic well and reservoir surveillance, optimizing chemical treatments, daily artificial lift optimisation, maximizing facility capacities, implementing low cost interventions, locating remaining oil and gas, restoring shut-in wells, as well as designing/executing workovers and sidetracks, when the prize is significant.

Biography:

Mike is currently the Principal Petroleum Engineering Consultant for the Mike Gunningham Consultancy, with over 35 years' experience around the world in oil and gas fields, in Production Technology, Production Optimisation, Well and Facility Integrity, Well, Reservoir and Facility Management (WRFM), Waterflooding and Enhanced Oil Recovery. He was a Principal Consultant in the SGS Subsurface Consultancy for 5 years, responsible for all Brownfield applications and Technical Due Diligence. Before that, Mike was the Head of Subsurface Support Team in Maersk Oil in Qatar (MOQ), as well as the Well, Reservoir & Facility Management Team Lead in MOQ, rolling out and embedding WRFM in the Al Shaheen oilfield. Mike has worked

for Shell for 26 years, based mainly in Holland, while working all over the world on numerous projects (Bonga, Nigeria NLG, Brunei, Malaysia, Oman, GOM, Canada, Brazil, New Zealand, and half of the North Sea). Mike graduated from Bradford University with a Chemical Engineering degree before completing his MSc in Petroleum Engineering at Imperial College. He has been a member of the SPE since 1984 and is currently representing the SPE on the IPTC Board of Directors. He has received the 2022 SPE Europe Regional Service Award and 2010 SPE North Sea Region Award for Production & Operations.