



**P-427**

## **Using reliability techniques and introduction of new technology to reduce E&P Costs**

*Paul R Bond, Technical Director Baker Hughes, Indian Sub Continent.*

### **Summary**

*The last 10 years has seen a dramatic increase in technologies being deployed by the service industry to help drive down the cost of E&P. Some examples of the deployment of new technologies include;*

- New drilling systems capable of reaching pockets of bypassed oil and evaluation systems deployed while drilling to maximize the time in the reservoir and increase production. New bit designs pushing the envelope of ROP through variable formations increasing the time on bottom and reducing trip NPT.*
- Logging while drilling systems covering the full range of formation evaluation and reservoir characterization. Seismic while drilling and NMR being two of the most recent developments.*
- Wireline systems where pressure readings and samples can be taken whilst analyzing the reservoir fluids which allows faster decisions to be made on completions.*
- Single trip liner systems reducing rig time required to run pipe.*
- Smart completions set up to limit the flow from various parts of the well to reduce water coning and increase the longevity of the wells.*

*Whilst the implementation of new technology has optimized the abilities to access oil in a cost effective manner the complexity of the down hole systems can lead to greater issue with non productive time.*

*The presentation will discuss some new technologies being applied to reduce E&P cost and new methods being implemented across all Baker Hughes product lines to maximize the reliability of the products and systems being deployed. The final target of the reliability initiative is to drive down NPT and reduce the costs associated with the introduction of the technically complex down hole systems.*