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Reserves Change with Time

Inherent in the definitions of oil and gas reserves is the fact that the reserves estimates are dependent on the data available at the time the estimates were prepared and that reserves estimates can change over time as additional data are acquired, as oil and gas prices vary and as technology improves. This article discusses these aspects of reserves estimation that are illustrated through real-world examples.

Changes in both the total reserves size for a given reservoir and the proportion of the total that can be classified as proved will be evident as overall knowledge of the zone increases with time. These reservoir size and classification differences are related to changes in the relative level of uncertainty pertaining to each of the underlying reservoir parameters.

In today's market environment, the underlying economics of reserves estimates vary widely with product price changes and lowering of unit production costs. Oil and gas prices have undergone significant change during the past five years and have had a profound impact on the quantities of oil and gas that are classified as reserves. Optimization of oilfield operations in onshore and offshore environments has had a positive effect on overall economics and tends to extend field life in many cases.

Even well defined reserves may change with time as new technologies and other programs are implemented which may enhance oil and gas recovery. New tools such as high resolution resistivity logs, advanced wireline pressure and sampling tools, seismic imaging, deepwater drilling and completion techniques and horizontal drilling are some of the new advances that have had a significant impact upon reserves estimates.