



Tuesday 12 June 2007

CONFERENCE HALL

5° Palazzo Uffici - Eni E&P division

Via Emilia 1

SAN DONATO MILANESE

16:30 – 17:00

MANAGEMENT OF WELL INTEGRITY DURING PRODUCTION OPERATIONS

By Paolo D'Alesio – ProEnergy S.r.l.

➤ ABSTRACT

The most common definitions of "Well Integrity" are based on the concept of retaining two intact barriers between the well and the external environment, throughout the entire life cycle of the well. Well Integrity Management is defined as the application of technical, operational and organizational solutions to reduce the risk of uncontrolled release of formation fluids.

Management of well integrity starts from well design, continues during its construction and is constantly implemented during the production phase; the latest is the subject of this lecture.

The loss of a Well Barrier causes a fluid flow which, in its turn, generates a pressure accumulation in well annuli at surface, also called Sustained Casing Pressure (SCP). Therefore, assessment of well integrity is generally carried out by measuring possible annular and inter-casing pressures and comparing them with the relevant values of the "Maximum Allowable Pressure" (MAP).

Industry experience has shown that the most common causes of SCP are leakage of the tubing or poor cement bond deriving from a poor cement job or from damage of the bond during the production life of the well.

The best prevention methods consist of ensuring well barriers functionality over the entire life-cycle of the well through the proper execution of ordinary maintenance and SCP monitoring activities.

In case of SCP, diagnostic methods are used to determine the severity of the leak through the barrier and the source of the anomalous pressure; then remediation efforts can be planned, which can range from simple rigless operations to a more expensive workover. In the worst case scenario a permanent abandonment of the well could be necessary.

➤ BIOGRAPHY

Paolo D'Alesio is the general manager of ProEnergy s.r.l., a consulting company dedicated to Well Engineering and Risk Analysis. He holds a MS degree in Chemical Engineering from "Politecnico di Milano".

He has a Service Contractor background with twenty years of previous experience in various positions within the Baker Hughes group, with an extensive knowledge of Completion Engineering, Production Optimization, Well Operations and Project Management.

Paolo is a Certified Quality Lead Auditor specialized for Oilfield and Chemical industries. At present is a Director in the Board of the SPE Italian Section.