

16th SPE ICoTA European Well Intervention Round Table

Pre-conference short course

Well Integrity Challenges & Solutions

Tuesday 16th November 2010 10am – 4:30pm AECC

This one day pre-conference short course is designed to deliver a broad introduction to the challenges of well integrity and the solutions currently being employed. The UK HSE Wells Group has stated that “Well integrity is the biggest influencer in achieving our objectives of reducing risks from wells and associated activities”. Furthermore, with the UKCS recognized as a mature production area and much of the infrastructure at, or exceeding, its design life, the HSE KP3 Report stated that Asset Integrity will continue to be one of the Offshore Safety Divisions main priorities for the foreseeable future. For operators, limitations in well integrity can not only result in safety concerns – both in operation and in intervention - but also lost revenue from production that is shut in and lost potential value when plans for retrofitting artificial lift, changing wellbore utility or sidetracking to new targets are stymied by underlying integrity issues. It is a topic whose profile is rising steadily and which is demanding more attention from both operator and service sector personnel.

Workshop places are limited - book early!

Morning Sessions:

1. **THE BASICS OF WELL INTEGRITY**

This session looks at the basic construction of a well and the key elements that give it integrity. From casing strings and cement tops; completion string components and annulus fluids; through to wellhead seals and tree valves, each element has a role to play in creating and maintaining well integrity. Well designs and methods of creating integrity may differ but the fundamental principles remain unchanged.

2. **WELL INTEGRITY REGULATIONS & STANDARDS**

Where risk exists and the consequences of failure can be catastrophic, it is in the interests of both governments and industry that good practice is established and standards are set. Regulation in the UK sets out the goals and industry responds with detailed standards. In recent years, new standards have emerged from API (ISO), NORSOK and others. This session reviews these documents and their application.

Afternoon Sessions

3. **WELL INTEGRITY MANAGEMENT**

The management of well integrity is a “life of well” concern, from design through construction, operation, maintenance and, ultimately, abandonment. Managing change is a key factor as the physical condition of the well deteriorates over a lifetime that can stretch to 40yrs and more in the UKCS. At its root lies the identification of safety critical elements. Over field life, which may include changes of operator and changes of wellbore utility, masses of data can be generated. Storage, appropriate analysis, and timely response can become a challenge. Well integrity management must therefore be carried out in a systematic and quality assured manner. Basic elements of well integrity management systems will be reviewed.

4. **WELL INTEGRITY REMEDIATION**

Once safety critical elements fail to perform according to acceptable limits, some or all of the functionality of the well will be lost. Future utility will depend on adjusting operating parameters, repairing or partially redesigning the well. This session will look at the techniques typically used to restore integrity and recover value. It will also look at some new technologies that are evolving to meet the increasing demand.

Trainer:

The short course will be led by Cameron Laing of Laing Engineering & Training Services (www.letstrain.co.uk), a petroleum engineer with over 33 years experience in well design and production technology in the UK North Sea and internationally. Cameron was also a significant contributor to the development of the MSc. in Petroleum Production Engineering at the Robert Gordon University.