

Health, safety and the environment

SPE/IADC 52797

"Safety Can't Wait—Global Campaign for Transformational Change"

A group of industry leaders, representing operators, drilling contractors and service companies, embarked on a campaign to change the safety culture of the drilling industry for good. Work groups have formed in the North Sea and South America, supported by a global steering group. This paper describes the background to this campaign, the issues faced around leadership and behaviour, the formation of the work groups and the issues associated with the safety culture of the drilling industry.

—R Buchan, BP Exploration Operating Co

SPE/IADC 52798

"Rig Floor Accidents: Who, When and Why? An Analysis of UK Offshore Accident Data"

Analysis of accident data held by HSE, the UK regulator, has identified the most frequent types of accident, the most common injuries, when accidents are most likely to occur and who is most likely to be injured. While many of the findings are predictable, there are some surprises. For example, accidents are most frequent at the beginning of shifts and when shift patterns change.

This paper details these findings and looks at current HSE projects.

—J D Dobson, Health and Safety Executive

SPE/IADC 52799

"Safety Performance: An Operations Approach to Management"

This paper presents a case history of a turnaround in safety performance coincident with the introduction of the Step Change Initiative in the North Sea, from an operations approach. The safety record on 5 platform drilling facilities in the North Sea during 1996 was exemplary, but deteriorated markedly during 1997. To reverse the trend, input was sought from the workforce. Shortfalls in the identification of hazard and the management of risk were identified. Improvements in this area included focused crew involvement, equipment upgrading and formal procedures. Early results show a

positive trend across the whole company.

—I Lane, RT Watkiss, KCA Drilling Ltd

SPE/IADC 52801

"Pro-Active Risk Assessment Based Management"

Enco UK's beneficial pro-active approach to risk assessment consists of 2 full days spent with the department and rig managers identifying potential future

risks in all areas and conducting a set procedure for each. This includes quantifying the risks in regard to frequency and severity and identifying measures to reduce the risk. An action plan is implemented and regularly monitored.

This process yielded 327 action points in the process of 2 days planning in 2 separate geographic locations. Measurable positive results in health, safety and environment have occurred, as well as operational efficiency, legislative compliance, customer satisfaction and moral.

—SM Guver, Enco Offshore UK ■

Information technology

SPE/IADC 52803

"Virtual Experience Simulation for Drilling—The Concept"

"Virtual Experience Simulation for Drilling" is a way to retain and transfer specific drilling experiences via computer simulation. Another nomenclature is heuristic drilling simulation. Unlike general drilling simulation, which solves a set of discreet mathematical equations, heuristic simulation relies on processed data sets from actual drilling results. The reality check is acceptance by those who participated in drilling the wells.

It is the author's belief that what reservoir simulation is to reservoir engineering, heuristic drilling simulation could be for drilling engineering.

—K K Millheim, Univ of Leoben

SPE/IADC 52804

"Drilling Performance Guidelines: A Tool for Sharing Drilling-Related Knowledge and Experience"

A major operator and a service company have collaborated to produce an on-line drilling knowledge-base.

The knowledge base is a structured electronic manual which provides a tool for drilling engineers, a training aid, and a one-stop reference source. More than 700 documents in the knowledge base cover planning, drilling, and post-well topics. Links allow the user to jump from document to document.

—D A Curry, Hughes Christensen Co

—A V Singelstad, Statoil

—D Bowden, Transition Assocs

SPE/IADC 52805

"Formation Evaluation in Ultra Deep Wells"

Formation evaluation at depths approaching 30,000 ft has necessitated the development of new technology in the areas of tool conveyance and high pressures and temperatures. Recently these new technologies have been put to the test in the logging of the deepest well ever drilled in the Gulf of Mexico, Garden Banks 386. This well, located in 2,663 ft (812 m) of water reached the Lower Pliocene and Miocene reservoirs at a depth of 27,864 ft (8,493 m) MD and 26,969 ft (8,220 m). Challenges at this depth included tool conveyance and exceeding the pressure limitation of conventional logging tools.

Equipment included array induction, sonic, and integrated lithology and porosity tools rated to 500° F (260° C) and 25,000 psi (172 Mpa) for formation evaluation, extra strength logging cables in excess of 36,000 ft (11,000 m) for tool conveyance, surface-mounted Wireline Dual Drum Capsan for surface tension reduction and the Tough Logging Conditions (drillpipe/wireline conveyance system) used in conjunction with wireline fluid sampling tools to sample the formation fluids downhole.

—I J Henkes,
Schlumberger Oilfield Services

ALSO ON THE PROGRAM:

SPE/IADC 52806: "Compression of Downhole Data"

—G Bernasconi,
Politecnico de Milano, et al ■