

Gayer, Marty (Occidental of Elk Hills, Inc, Tupman, CA)

## **INNOVATIONS IN MANAGING THE GEOLOGICAL OPERATIONS FOR A MULTI-RIG DRILLING PROGRAM AT ELK HILLS FIELD**

Subsequent to Occidental's acquisition of 78% interest in the Elk Hills Field, the company embarked on an ambitious development program, which resulted in an increase in drilling activity. The number of Open-Hole Drilling rigs, increased from an average of four to an average of ten and (at one point) to a maximum of thirteen. This increase in drilling activity resulted in the need to streamline the Geological Operations procedures in use, to allow the project Geologists to spend more time in the office generating prospects and less time in the field supervising Well-site Operations.

A small Operations Group was set up to handle all of the Geological Operations for Oxy at Elk Hills and throughout California. Utilizing a system of Daily Operations Reports, Call-out Sheets and Well-site Instructions, sent out on a Daily Basis, to all Mud Logging, Wireline Logging and Service Subcontractors, this tiny Operations Team was able to handle a 13 Rig Drilling Operation at Elk Hills, as well as Exploration Drilling at other California locations.

A system of Well-site supervision, which utilized the concept of "Key Point Supervision of Multiple Wireline Logging Jobs", was implemented, and which resulted in the ability of a single Well-site representative to supervise multiple Wireline Logging Jobs simultaneously. A spreadsheet system that tracked the efficiencies of our primary wireline logging service contractors resulted in an increase in Log Quality and a decrease in Lost Rig Time. The implementation of Epoch's Rigwatch Explorer system streamlined the process of Mudlog deliverability to RMT Geologists.

These changes resulted in significant financial savings to the company through increased efficiency and more timely decisions at the Well-site. The Elk Hills Geological Operations Program has become a model within the company, and one where Geoscientists from locations around the world have come to learn the Well-site Management techniques developed here.