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Ourhoud Field Case History in preparation for First Oil Production

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With the Ourhoud Field nearing completion of the initial development phase, this is a unique opportunity to review the history of field development before any full-field production history.

By considering the work carried out on structure and reservoir characterisation, the acquisition of injectivity and interference testing data and the analysis of the resultant reservoir simulation, a perspective is given of the problems of understanding a complex and compartmentalised reservoir and the challenges associated with working in a unitised field.

The necessity for flexibility in development planning in the light of the results of new data is demonstrated.

The Ourhoud field is located within Blocks 404a, 405a and 406a in the Berkine Basin of Algeria. The field was discovered in June 1994 when the BKE-1 well found oil in excellent quality TAGI sandstone, flowing at 15,275 BOPD of 40.4° API oil and 3.4 MMCFGPD through a 74/64" choke. Ourhoud is approximately 27 km long and 9 km wide and is the second largest oil field in Algeria, with expected ultimate recovery in excess of 1 billion barrels. First production is scheduled in December 2002 with full production of 230,000 BOPD in early 2003.

The producing reservoir is the Triassic Argilo-Gréseux Inferieur (TAGI) which rests unconformably on Carboniferous strata. The structure has a proven oil column height of 293 meters on a three-way dip closure bounded on the east by a significant fault. Within the field area, the TAGI fluvial sandstones can be subdivided into three units, the Upper, Middle and Lower Members, on the basis of widespread shale markers. Triassic-Jurassic salts provide the regional seal overlie the reservoir interval. Silurian and Devonian shales are the source rock intervals. The reservoir has now been penetrated by 40 wells within the field boundary.