

**AAPG HEDBERG CONFERENCE**  
***“Paleozoic and Triassic Petroleum Systems in North Africa”***  
**February 18-20, 2003, Algiers, Algeria**

**Algeria - Exploration In The Berkine Basin: Optimization Of 3D Seismic Acquisition Parameters**

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The exploration and production contract signed by TOTALFINAELF and SONATRACH in the Berkine basin of the Eastern Great Erg concerns the Rhourde-Es-Sid perimeter. Seismic operations have started in 2002 with both a 2D and a 3D program. TFE conducted a feasibility study with existing 2D data in order to optimize the future 3D acquisition parameters in this desertic environment, well known for its adverse conditions: rather poor signal-to-noise ratio, difficult static corrections to cope with the surface heterogeneities, strong absorption of the high frequencies; the average depth of the exploration objectives is 3500 to 4000 m. This new 3D survey of approximately 500 km<sup>2</sup> was designed within a very dense existing 2D seismic grid with poor to fair quality data, aiming at focusing on to a priority zone; the main objective of the new seismic being to upgrade in theory the structural image.

After a review of the geological context of the area, this presentation concentrates on the methodology used in TFE, to come up with the best acquisition and processing parameters. The milestones of this study are: field reconnaissance, geo-referencing the satellite picture, seismic processing flow leading to the main parameters, field acquisition testing at the beginning of the survey to set up the final details.

The field work effectively started in August 2002 after completion of the 2D programme; the first results from the crew are encouraging as for the structural definition of our objective in depth, which is an essential step towards the best location of the first exploration well.