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Jean-Michel Janiseck<sup>1</sup>, Laurent Menard<sup>1</sup>, Jacques Clavel<sup>1</sup>, Sébastien Guillon<sup>2</sup>, Naamen Keskes<sup>2</sup> (1) Totalfinaelf E&P Angola, Pau Cedex, France (2) Totalfinaelf, N/A,

### **Coherent Fault Interpretation and Modeling in the Rosa-Lirio Channels Using High Resolution Seismic and Attributes**

The Rosa-Lirio turbidite complexes are located on block 17, deep offshore Angola. These channels display a high degree of faulting, mainly related to salt deformation, which sets them apart from other Block 17 complexes. This structural complexity increases the risk of compartmentalisation and needs to be taken into account in the geological and dynamic models.

For most of the faults, communications by relay/flexural zones and/or sand to sand juxtaposition seem likely, if interference test results can be extrapolated from Girassol (an adjacent Block 17 field). Therefore to accurately represent fluid pathways in the dynamic model, a detailed structural analysis focusing on these two key factors is necessary.

The high quality of the available High Resolution 3-D seismic allows such a detailed interpretation to be undertaken. It is further refined using automatic fault picking, automatic throw calculation and detection of fine relay/flexural zones based on the computation of specific seismic attributes.

The geological and dynamic grid is then built in the time domain to overlay the seismic on the model, allowing corrections of the grid to ensure that the sand to sand juxtaposition is correctly represented.

However, some faults with high throw are sealing (as shown by flat spot shift), even if sand to sand juxtaposition exists. To simulate this effect, a reduction of fault transmissibility along the fault surfaces is parameterised in the dynamic model based on throw magnitudes or SGR, with two complementary approaches.

The actual fault transmissibility value being uncertain, different sensitivity scenarios can then be tested with the dynamic simulation, ultimately allowing a development scheme to be proposed, which endeavours to be robust to potential fault dynamic behaviour.