Geophysical Research Abstracts, Vol. 7, 04595, 2005
SRef-ID: 1607-7962/gra/EGU05-A-04595

Angola margin seabed analysis from 3D seismic data

I. Contrucci(1), C. Berndt(1), A. Gay(1), H. Nouzé(2)

(1) SOC, Southampton, UK, (2) IFREMER, Brest, France, (ico@soc.soton.ac.uk / Tel: +44 (0)2380 596546)

The Angolan Margin formed during the opening of the Atlantic in the Aptian. Deposition of thick salt sequences marked the end of the continental rifting. The post-rift sedimentary history can be divided in two episodes related to global climate change, and reflect the transition from greenhouse to icehouse conditions. During the greenhouse period from late Cretaceous to Eocene a carbonate ramp developed in response to low amplitude sea level changes. From Oligocene to the present time a new terrigenous wedge prograded is established as a result of high amplitude and frequency sea level changes and alternating drier/wetter climate. This period correlates with the growth of the Zaire delta and the end of thermal subsidence of the margin. 3D seismic data from offshore Angola show Bottom Simulator Reflectors (BSR), which are related to the presence of gas hydrates on the Zaire fan system, at about 200 m below seafloor, the top of the gas hydrates at about 75 m below seafloor as well as a polygonal fault system. Generally, gas hydrates do not occur in very fine-grained sediments, whereas polygonal faults only occur in these. The observation of both gas hydrates and polygonal faults in the same stratigraphic unit implies revision of these concepts, especially the use of polygonal faults as a lithology indicator.