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**Global Continental Margins: Syndepositional/Syntectonic Settings for Offshore Exploration**

**SPEAKER**

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Exploration focus has increased over the past decade to explore continental margin plays of the Atlantic margin type. These play types have proven to be very lucrative in their occurrence of large reserve prospects and are becoming increasingly well understood. Understanding of the depositional style, tectonics and penecontemporaneous interrelationships of the plays are responsive to improved seismic interpretation. Only present technological limitations stand in the way of economic testing.

Salt tectonics characterize Atlantic margin plays but elsewhere shale tectonics are a major element in creation of trapping settings. Rift zones impart axial control on basin sedimentation. As rifts evolve into "single-sided" basins, depositional facies change to more slope-normal distributions.

Active margin basins typically correspond to narrow shelf widths, high sedimentation rates and penecontemporaneous tectonics which override the impact of sea level rise. These margins commonly lack major rivers but are characterized by many rivers of diverse strengths and supply. Active margins are not only compressional settings but can offer insight into wrench tectonic settings as well.

Common to all continental margin settings are the processes whereby sediment is deposited in the deep water. Each basin is a mix of tectonic histories and styles, of source areas and sediment supply, of shelf widths, wave and current energies.

Simple models of high and low stand depositional settings do not do justice to the information available from regional analysis of tectonics and sedimentation. Integrated process models recognize those various elements which characterize specific margin settings as well as the architectural differences which create individual play types.

This paper serves to stimulate thought into the processes involved and investigates other global margin settings such as the Pacific Coasts of North and South America, the Mediterranean, the East coast of Africa, the Bay of Bengal and the Arabian Sea where the style elements differ from those of the Atlantic margins and may integrate to provide exciting exploration opportunities.

**BIOGRAPHY**

*John D. Harper, PhD, P. Geol., FGSA, FGAC: President of Harper Consulting International Inc.; Director and Consultant with Alconsult International Ltd.; Retired Full Professor, Petroleum Geology, and the first Director of the Centre for Earth Resources Research at Memorial University of Newfoundland to Jan 1, 1998, and most recently Adjunct Professor; formerly with Shell Development, Shell Oil, Shell Canada, and Trend Exploration. He has operational, management and research credentials over the past 33 years in reservoir characterization and basin analysis for Canadian, US, and International onshore and offshore basins. He and his students engaged in and published on international petroleum research including major studies related to the Hibernia oil field and the Jeanne d'Arc Basin of the Grand Banks. Dr. Harper produced the Hydrocarbon Atlas of the Western Canada Sedimentary Basin (a 4-D analysis of hydrocarbon distribution in Alberta, British Columbia, and Saskatchewan). His most recent consulting activities have been in the Mackenzie Delta, the Scotian Shelf and Deep Water, the West Coast of Newfoundland, and the Grand Banks.*