

**AAPG Annual Meeting
March 10-13, 2002
Houston, Texas**

Kenneth L. Smith¹, A. D. Gault¹, D. E. Witt¹, C. E. Weddle² (1) SPE, Conoco Inc, Houston, TX (2) SPE, Cherokee Engineering, N/A

SubSea MudLift Drilling Joint Industry Project: Delivering Dual Gradient Drilling Technology to Industry

In early 1996, a consortium of deepwater drilling contractors, operators, service companies and a manufacturer gathered to discuss potential approaches to "riserless drilling", also known as "dual gradient drilling". This technology overcomes a significant deepwater drilling challenge: eliminating some of the casing strings necessitated by the relatively high pore pressures and low formation strengths found in areas like the deepwater Gulf of Mexico. That initial workshop led to what has become one of the largest and most significant joint industry projects (JIPs) in the history of our industry: the SubSea MudLift Drilling JIP. The JIP's overarching goal became to provide a total solution for dual gradient drilling, that is, both hardware and the methodology to safely and efficiently use that hardware. Five years and nearly 50 million dollars later, this JIP has succeeded in that goal. This paper, the first in a series of three on SubSea MudLift Drilling (SMD), will present highlights of the history of the project, its organization and its management (see also SPE 71358 and SPE 71359). The information presented here demonstrates the level of effort necessary to produce a ready-for-application technology, and will assist anyone planning a major JIP to deliver a complex new technology. Additionally, it will discuss the development of the SMD equipment, the preparation of SMD-specific drilling and well control procedures and the complementary relationship between those procedures and the equipment design. This paper will verify the integrity of the process used to develop these procedures, and it will help the reader understand the SMD system and techniques developed by the SMD JIP.