GOM Deepwater Background

Worldwide expansion in deepwater operations is a predictable response to the growth in global oil demand as the finite nature of petroleum resources onshore and in the shallow waters becomes more apparent to international oil and gas operators. This is particularly true for the Gulf of Mexico (GOM) Region, which was once perceived by petroleum industry analysts as unattractive for big exploration and production (E&P) investment. However, the GOM Region has re emerged as the key focal point of oil and underlying the turnaround in the attractiveness of the GOM Region to E&P investors include

the changing structure of the OCS oil and gas industry, government regulatory programs and fiscal incentives, and favorable market conditions of high oil and gas prices (Iledare, 2009).

Leasing activity in the Gulf deepwater increased significantly in the early 1990s. Incentives to explore and develop petroleum resources, especially natural gas, in the more difficult areas of the Gulf of Mexico contributed to leasing activity and E&P operations in the region. The exodus of international oil companies from the region in the late 1980s to early 1990s was reversed after the Deepwater Royalty Relief Act of 1995. Without the increase in GOM deepwater oil and gas production, the overall decline in U.S. oil production over the past five years would have more than doubled (Baud et al., 2000). In fact, deepwater percentage of total GOM oil production was less than 4% in 1989, but over 80% in 2009. The prospect of increasing

[1] This is an excerpt from SPE Paper 125085, "A comparative study of worldwide deepwater petroleum exploration and development efforts and outcomes" presented at the SPE ATCE Meeting, New Orleans, LA. October 2009.

petroleum reserves and supply in the U.S. continues to hinge on making new, sizable, and profitable discoveries in the Gulf of Mexico Region, especially in the deep offshore areas (Iledare and Kaiser, 2007).

Implications of the BP Macondo Incident

The BP Macondo blowout will not only have long term effects on the environment, it may have a long lasting impact on the U.S. deepwater efforts, outcomes, and the competitive advantage of the region for deepwater investment flow if care is not taken. Nearly every top twenty international oil and gas company considers deepwater operations an essential component of its strategic business development (IEA, 2008). International oil

Table 2 puts the competitive advantage of the GOM deepwater in broader perspective. The table shows that of the 568 fields discovered between 1983 and 2007, 311 were discovered in North America. Although North America accounts for 55 percent of worldwide field discoveries, it accounts for only about 23 percent of discovered reserves because IOCs tend to discover larger fields in other regions (Figures 1 & 2). The IOCs discovered 49 percent of reserves worldwide, on average; 81 percent of reserves in Africa and 60 percent of reserves in North America. It would not be difficult for the IOCs to move their investments elsewhere if regulations make the search for oil in the Gulf deepwater costlier than it is in the Gulf of Guinea where the estimated finding and development costs for deep and ultra deep prospects are significantly lower than in the Gulf of Mexico deepwater (ISL, 2008).

Finally, the growth in deepwater operations worldwide is an indication of industry's willingness to search for and develop oil and gas resources wherever access to the resources is granted with fewer restrictions (Figures 1&2). As the government and the oil and gas industry respond to the Macondo catastrophe with guidelines and principles to ensure such a preventable accident does not recur, government must recognize that there will be unintended consequences to any increased regulation and stiffer rules. The cost of doing business in the Gulf of Mexico will increase. The competitive advantage of deepwater operations in the GOM that are gained by stability of the operating environment, technical advancement, and experienced operators may be offset by these higher costs and increased time between discovery and production.

Conclusion

The stability of the GOM operating environment, technical advancement, and experienced operators make the region the custodian of deepwater technical knowledge and information and these factors also reduce the U.S. oil import vulnerability. It would be foolhardy to allow the heedlessness of one operator in the GOM to obliterate a relatively progressive E&P business in the Gulf Coast of the United States just as the Santa Barbarthe

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References:

1. Baud, R.D., R.H. Peterson, C. Doyle, and G.E. Richardson. 2000. *Deep Water Gulf of Mexico: America's Emerging Frontier*. U.S. Dept. of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, LA. OCS Report MMS 2000 022. 89 pp.

2. Iledare, O.O. 2009. Worldwide deepwater petroleum exploration and development prospectivity. Comparative analysis of efforts and outcomes. SPE Paper 125085 Presented at the 2009 SPE Annual Technical Conference and Exhibition, New Orleans, LA. October 4 7, 2009.

3. Iledare, O. O. 2008. Profitability of Deepwater Petroleum Leases: Empirical Evidence from the U.S. Gulf of Mexico OCS Region. SPE Paper 116602 Presented at the 2008 SPE Annual Technical Conference and Exhibition, Denver, Colorado, USA, 21 24 September 2008.

4. Infield Systems Limited (ISL). 2008. *Global Perspectives Deep and Ultra-deepwater Market Update 2008/12.* Infield Systems Limited, London.

5. International Energy Agency (IEA). 2008. World Energy Outlook 2008. International Energy Agency, Paris.

6. Kaiser, M.J. and A.G. Pulsipher. 2004. *Fiscal system analysis: Concessionary and contractual systems used in offshore petroleum arrangements.* U.S. Department of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, LA, OCS Study MMS 2004 016.

Table 1

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Figure 1: Cumulative Worldwide Deepwater Reserves Trends by Region, 1983-2007

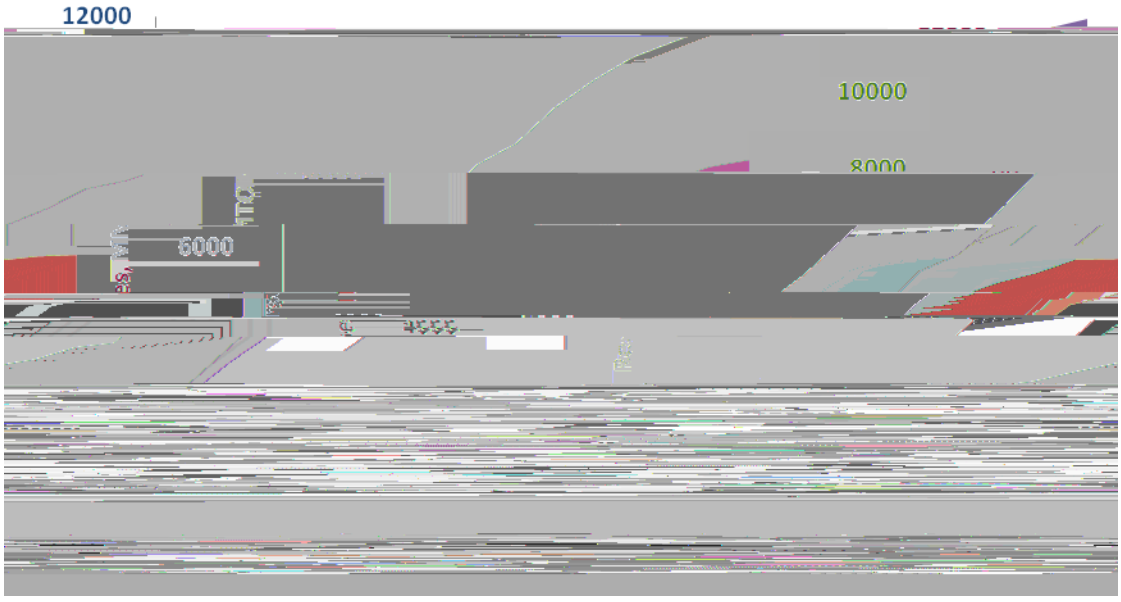

Figure 2: Cumulative Worldwide Deepwater Reserves Trends by Firm Type, 1983-2007