

Funding for Project

Nautilus responded to two specific requests for Proposals (RFPs) covering the use of coiled tubing for a cost effective way of conducting deep water intervention and another for deep water early testing technologies. Nautilus is conducting two projects which are co-funded by Research Partnership to Secure Energy for America (RPSEA) www.rpsea.org:

Coil Tubing Drilling and Intervention System Using a Cost Effective Vessel

addresses the growing need for a low cost well intervention system in deep water subsea wells. The enabling technology is a patented self standing riser that will provide companies with a safe and affordable way to complete, re-enter and maintain subsea wells.



Self-Standing Riser (SSR)

Early Reservoir Appraisal, Utilizing a Well Testing System

– will develop an integrated “general source” to deal with varied disciplines needed to plan, cost and run deep water tests in the Gulf of Mexico. This project will provide a way a company can evaluate all the possibilities for deep water testing in the Gulf of Mexico to determine the optimum options to test including the planning, costing, and operational requirements.

Nautilus Managing Directors



Dr. Keith K. Millheim, Ph.D.
Managing Director
Keith.Millheim@Nautilus-Int.com

Thomas E. Williams
Managing Director
Tom.Williams@Nautilus-Int.com

John Koulianos
Chief Financial Officer
John.Koulianos@Nautilus-Int.com

Charles R. Yemington, PE
Managing Director
Charles.Yemington@Nautilus-Int.com

NAUTILUS INTERNATIONAL LLC

9595 Six Pines Drive #8210

The Woodlands, TX 77380

Project 2501 Manager: Dr. Keith Millheim, Ph.D.

Office Phone: 832.631.6174

Cell Phone: 713.542.8941

Fax: 832.631.6070

Web: <http://www.nautilus-int.com>



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LLC.

Nautilus

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RPSEA Project 2501

Early Reservoir Appraisal Utilizing a Well Testing System

Background

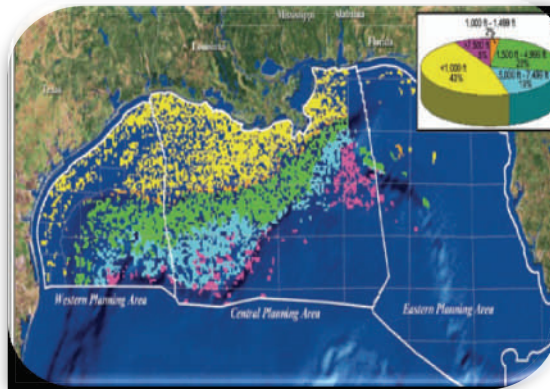
Deepwater well testing in the Gulf of Mexico (GOM) is not adequate, primarily due to the high cost of conventional equipment. Appropriate low-cost deepwater well production testing systems would provide an incentive to perform early longer term well tests to help define reservoir characteristics, economics and field management. Well testing for the deep water GOM could be the major enabler to prove up billions of barrels of oil equivalent. Recent discoveries in the deep water imply massive accumulations of oil, in the billions of barrels, and possibly multi-TCF of gas. To ascertain the oil or gas in place, production potential, and ultimate recovery factors requires more than electric logs, cores, 3-D seismic, and MDTs. Because of the high cost and extended times to drill these deep water wells, the appraisal well concept to prove commerciality is usually not economically viable for many parts of the GOM.

Nautilus International LLC (NI) is leading a world class team of experts who are evaluating the various GOM deepwater reservoirs to identify the facility design criteria required for deepwater well testing systems and will conduct a thorough analysis of various well testing systems.

If systems for cost effective early testing could be developed and implemented, the impact on the deep water GOM developments would be immense. Since there are so many varied disciplines

needed to plan, cost, and run deep water tests, there needs to be an integrated approach where a company can go to one "General Source" that can help optimize the well testing system for any GOM application. This initiative will provide a way a company can look at all the possibilities for deep water testing in to determine the optimum options to test, including the planning, costing, and operational requirements.

Gulf of Mexico



Project Goals

- Provide a roadmap for well testing options in deep water GOM
- Evaluate various well testing systems to optimize deep water well testing in the GOM
- Provide management with a tool to *value* the application of early well testing on deep water wells
- Provide engineers and geoscientists with a way to *compare* various well testing systems for deep water testing applications
- Provide a *practical* guide for deep water well testing designs and operations
- Create computer based spread sheet for various well

- testing systems
- the GoM for
- water reservoirs
- Phase I completion

Nautilus International

NI is dedicated to reducing the cost of drilling deep water offshore. Nautilus technology (SSR) that allows complete MODU drilling operations also allows companies to operate during hurricane seasons by pulling risers, thus saving more operational time in a safe and effective manner. This technology-based solution helps clients with strategic business challenges for reducing risks like early well testing and ways to improve

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9595 Six Pines Drive
The Woodlands, TX
Project 2501 Manager
Office Phone: 832.631.6071
Cell Phone: 713.531.6071
Fax: 832.631.6071
Web: <http://www.nautilusintl.com>