

# New Atwood jackup utilizes proven technology

**ATWOOD OCEANICS' PHILOSOPHY** when adding to or modifying its fleet is to utilize proven, up-to-date, and modern technology to enable its fleet to be more cost effective for its clients and safer for its crews, the environment and all parties involved in its operations.

While some drilling contractors, both offshore and onshore, equip new units or upgrade existing rigs with the latest bells and whistles, Atwood has been doing just fine, thank you, with proven technology. This has also been the case with its newest rig, the Atwood Beacon, a KFELS Mod V, Enhanced B Class Ultra Premium jackup drilling unit.

"What we have done is taken a proven design with proven technology and kept it simple all the while incorporating lessons learned by previous owners and suggestions from our clients" said **Anthony Gallegos**, Manager of Business Development for Atwood Oceanics. "In designing the rig, Atwood made provisions for both development and exploration activities in water depths up to 400 ft."

The rig left KFELS Shipyard, Singapore on 31 July 2003 and mobilized immediately to its first location. The rig's initial contract provides for three wells to be drilled and a jacket structure to be installed for Murphy Oil Malaysia. Murphy retains options to extend the contract into the first quarter 2004.

## RIG FEATURES

The Atwood Beacon is equipped with 517 ft of leg and rated to work in up to 400 ft of water. The Beacon can easily be upgraded to work in deeper water via the addition of more leg. Specifically, the leg length can be increased to 545 ft with slightly reduced environmental rating.

The rig also features a 70 ft cantilever reach beyond the transom and a 15 ft transverse reach either side of centerline. Cantilever load capacity is 1,643 kips on centerline at 70 ft and 2,000 kips on centerline at 62 ft.

## DRILLING EQUIPMENT

The rig utilizes a National Oilwell Cyber Base System with two chairs for redundancy and also to provide future system

flexibility. The Cyber Base system monitors weight on bit and optimizes rates of penetration via a Kinetic Energy Monitoring System (KEMS). In addition, the drilling instrumentation SDI-120 & DAQ monitoring system provides a full overview of the drilling process. SDI displays all field sensors and calculates



**The Atwood Beacon prepares to lift a jacket on its first location for Murphy Oil Malaysia. The rig's initial contract provides for three wells to be drilled and a jacket structure to be installed.**

and monitors a number of related parameters.

Additionally, a Weatherford Tork Winder is used to make-up and break-out tubulars. The Atwood Beacon currently does not have an automated pipe racking system.

However, one can be added easily due to having incorporated this option into the design of the rig. The Tork Winder maneuvers on tracks and has access to both the rotary table and the mouse hole allowing Atwood to make up and break-out stands of pipe outside of the critical path of the well.

The rig has three LEWCO 2,200 hp 7,500 psi triplex mud pumps and five Brandt shale shakers. "With the five LCM cascade shakers, the system has a volume capacity in excess of 2,000 gallons per minute."

The rig can mix and circulate two separate mud systems simultaneously while storing a third.

"The ability to simultaneously build, circulate, store and switch between separate drilling fluid systems eliminates days, not just hours, from the critical

path of our clients' drilling program," Mr Gallegos said.

All of this capacity allows the rig to drill to depths of 30,000 ft or more. However, Atwood is not targeting this rig toward shallow water deep gas plays in the Gulf of Mexico that has garnered attention recently.

Nevertheless, Atwood has completed a preliminary engineering study regarding ultradeep wells in Southeast Asia that if drilled, will be close to 35,000 ft measured depth, Mr Gallegos noted.

## 100% PRELOAD—SINGLE STAGE

Another important feature of the Atwood Beacon is its ability to perform single stage preloads to 100% of the anticipated environmental loads. "In the past, preloading might have taken several stages and lasted two or three days," Mr Gallegos said, "but we can now preload at the same location in the same conditions in a matter of hours."

In fact, according to Mr Gallegos, it took only about six hours to achieve 100% preload at the Atwood Beacon's first location. Leg penetrations at the first location were approximately 50 ft below the mud line.

## FOOTPRINT

Another very important feature of the Atwood Beacon, is related to the rig's footprint.

"The geometry associated with the leg spacing of the Mod-V, Class-B matches exactly the geometry associated with the MLT 116-C's," Mr Gallegos noted.

The compatibility of Atwood Beacon's footprint gives the rig the ability to go into a field where an operator has used a 116-C in the past and utilize the existing can hole impressions to perform workovers, recompletions, sidetracks, or drill new wells.

This capability also provides flexibility to our clients when they are evaluating future work activities at the proposed drill site.

"The footprint of the Atwood Beacon will not limit our client or hold him hostage to a one-of-a-kind footprint," he said. ■