

Technology briefs:

Land drilling innovations

HONGHUA AMERICA is offering its Fast Moving 1300HP AC VFD rig to companies looking to replace older rigs with advanced technologies, according to the company. As the name implies, the rig is highly mobile and features reduced transport loads (22) to save time and cost. An optional hydraulic skidding system is available and can be added at the customer's request.

HongHua Group is one of the largest drilling rig manufacturers in Asia, though it's still relatively new to North America. The company has sold 56 rigs to the US market, and the first of the 1,300-hp Fast Moving rig was just delivered to **DHS Drilling** in early 2009. The rig can drill up to approximately 13,000 ft.

According to a company representative, the Fast Moving rig is one of their most advanced-technology designs to date. It is highly automated, featuring a proprietary auto drilling program controlled through the driller's cabin. It also has an automatic trip program to improve trip times and equipment wear and tear. An auto bit feed program uses advanced sensors to predict the remaining life of the drill bit and optimize use, potentially reducing the number of trips.

Other features include a trailerized mast and hydraulically operated self-elevating substructure.



The Fast Moving 1300HP AC VFD rig is one of the most automated, advanced-technology designs from HongHua America, the company said. It is highly mobile and can be moved in 22 loads.

According to the company, they plan to continue building all of its rigs in China, although a facility has been set up in Houston for servicing and sales. A joint venture is also in the works that could lead to manufacturing possibilities in Egypt, said the company representative.

PREDATOR DRILLING SYSTEM

Atlas Copco Drilling Solutions is rolling out its Predator Drilling System, designed to reduce nonproductive time and cost. It is a 200,000-lb hookload drilling package for oil, gas and coalbed methane drilling. It consists of a mobile drilling rig, a hydraulic substructure and a hands-free pipe handling skate.

“Predator will provide a new level of technology and innovative designs to the oil and gas drilling industry,” said **Ron Buell**, business development manager. “We expect that Predator will significantly reduce operating cost, improve drilling performance and enhance safety for drilling contractors and operators.”

According to a recently released series of web-based animations introducing the new system, the Predator rig and substructure is an integrated drilling unit. The substructure is a single-load support system.

The main table bushing, master slip assembly and Iron Roughneck are mounted on the substructure and travel with it. The control console can be mounted on the work floor or in a driller’s cabin.

The pipe skate component is a skid-mounted package that’s easily transported and positioned behind the substructure. Fold-out pipe racks deployed on both sides of the skate have hydraulic jacks so they can be set to roll tubulars onto or away

from a skate. The skate can handle Range 3 drill pipe and casing with casing diameters up to 24 in.

To find out more about Predator, visit the Atlas Copco Drilling Solutions booth at OTC, 4-7 May, Houston.

DC-ELECTRIC SUPER SINGLE

MD Cowan recently completed the first DC-electric version of its Super Single Drilling Rig for **J.B. Hunt Gas & Oil Drilling**. It is the sixth Super Single in the company’s fleet.

“This is an excellent first entry into the electric rig market for us,” said **Scott Milliren, president**, MD Cowan. “We’ve taken a practical approach to provide another alternative for customers who are looking for the mobility and small footprint of the Super Single combined with the benefits of an SCR rig.”

The basic components of the rig are similar to the original Super Single, with some variations: The Drawworks (RT400B) and mud pumps (Weatherford MP16) are powered by GE752 electric motors. The electric motors allow for the installation of the larger 1,600-hp mud pumps, versus the 1,000-hp pumps. The drawworks incorporates a Rig Tech 2-speed transmission, providing full 1,000-hp output. This also reduces the overall weight of the trailer and improves deck clearance. The rig has an OMRON SCR house with two CAT 3512C Engine-Generator sets.

The DC-electric Super Single rig will drill on pad locations, so the footprint allows for skidding operations. A mud house and pre-mix tank have been added to the rig for requirements in the Barnett Shale, where the rig is contracted to work. “We have high expectations for the performance and efficiency of the rig,” said **Kirk Wade**, drilling manager for J.B. Hunt Gas & Oil Drilling. ♠