

## Artificial Lift Advances Boost Industry

By Ted Griggs  
Special Correspondent

The ongoing and simultaneous development of multiple liquids-rich unconventional plays—including the Bakken, Eagle Ford, Permian Basin, Niobrara, Woodbine/Eaglebine, Utica and Mississippian Lime—and their wells' hyperbolic decline curves have increased the demand for more efficient, flexible and automated artificial-lift solutions.

Of course, different situations call for different approaches. Even so, innovation is helping to broaden some technologies' applications so that, for instance, electric submersible pumps no longer require at least 300 barrels a day of production, but now can operate at flow rates as low as 50 bbl/d.

### Right For Remote Locations

The rigless ESP also has become a reality, although the solution is used mainly in remote locations such as jungles, deserts and offshore platforms, indicates Todd Wray, vice president of marketing and sales for Artificial Lift Company.

The Houston-based company says it has pulled and reinstalled the latest version of its Advantage™ rigless ESP system for a major oil company's well in West Texas. But the system's real service target, personnel say, is onshore wells in Alaska or offshore wells worldwide.

The setup allows the ESP industry to convey and deploy with a crane and a slickline unit, without the need for a workover rig, Wray says. While that is less of a factor in lower-48 shale formations with many rigs and relatively little response time lag, a rigless setup is ideal for locations in which getting infrastructure and operational footprint to location is challenging or cost-prohibitive, Wray states. Outside of the completion options, he adds, time

constitutes the solution's true value.

When an ESP well or system fails, production immediately ceases, he notes. At that point, the situation becomes a race to remediation, as costs mount in the form of lost production, equipment transportation expenses, and repair and installation costs. "If you can cut that 90-120 days to 10-12, imagine the savings," he illustrates.

So far, Artificial Lift Co. says it has deployed its solution onshore in Alaska and offshore West Africa, the Middle East and Southeast Asia. The system also has been deployed in environmentally sensitive areas in Italy, where a smaller footprint is a priority. After all, it is much easier to bring in an 8 foot-by-8 foot skid, a slickline unit and a crane than a workover rig.

"Pop it up, bring it in, put it out, and you are done," Wray characterizes.

He goes on to explain that the rigless solution is made possible by two Artificial Lift Co. innovations: the permanent magnet motor and the downhole wet connect system. In the former, magnets enable a motor to attain the same horsepower as conventional motors, but are a fifth of the length and weight of their conventional counterparts.

"That means the motor is no longer 50 feet, it's 10 feet. It's no longer 2,000 pounds, it's 400 pounds, which means I can deploy it with slickline," Wray observes.

The other critical advance is the ability to mate and de-mate down hole in a fluid system, he relates. The company's side-pocket mounted wet connectors, similar to gas-lift mandrills, provide full-bore access when the ESP is pulled out of the well. When it is, operators are free to go down hole for cleanups, reperforations, or any other necessary maintenance. □



Artificial Lift Company's Advantage™ rigless ESP system is especially appropriate for wells located offshore or at remote, difficult to reach sites. The company explains that the equipment can be deployed with a crane and a slickline unit rather than a workover rig, minimizing infrastructure needs and the operational footprint.