

Rowan Companies marks 50th anniversary of landmark LeTourneau jackup

DURING THE EARLY 1950's, offshore drilling was, for the most part, limited to fixed platforms. Use of these fixed platforms was an expensive proposition since recovering the cost of the foundation had to be achieved from a single drilling location.

The very few mobile platforms operating during that era were supported by submerging refloatable vessels, and were considered unsuitable for use in the turbulent waters of open seas. They were, therefore, confined to inland waters.

R G LeTourneau, an inventor and innovator with literally hundreds of US patents, had an idea for a vessel that could safely drill for oil and gas offshore.

During a career that had spanned nearly 40 years, Mr LeTourneau had become renowned for designing and building machines that elevated the earthmoving industry to new levels of efficiency and productivity.

Mr LeTourneau was the first to develop all-wheel electric drives for these heavy-duty machines, a key technological component in the successful development of a mobile offshore drilling platform.



About the only similarity between the Scorpion and the modern jackups of today are three legs and a derrick. Jackup design and technology has come a long way in the past 50 years. The Rowan Gorilla VII, a LeTourneau Super Gorilla rig, was built in 2002 and is rated to drill in 400 ft of water. It is currently working in the North Sea.



LeTourneau's first jackup, Scorpion built for Zapata Offshore, on location in the Gulf of Mexico. The rig was built in 1955 in Vicksburg, Miss, and "walked" to the Mississippi River under its own power.

He envisioned a stable and secure mobile platform that could safely operate in often-treacherous open waters. He knew that such a vessel would greatly reduce the costs of offshore drilling by being able to move from site-to-site rather than being permanently fixed to one location.

After conducting extensive engineering studies in oceanography, hurricane winds and tidal waves, his company, **R G LeTourneau, Inc**, began design work on a mobile, self-elevating offshore drilling platform.

The objective was to build an all-weather offshore drilling platform that could be floated to the drill site then quickly converted to a stabilized structure by lowering open-lattice tripod-type support legs to the sea floor.

Although the concept of a deep-sea, mobile offshore platform aroused considerable interest among the oil companies, none of the companies were prepared to

help finance construction of such an expensive (nearly \$3 million) and unproven project.

Then Mr LeTourneau proposed the idea to **Zapata Off-Shore Company** of Houston headed by future United States President, **George H W Bush**.

Bush later described LeTourneau in his autobiography, *Looking Forward*.

“A kind of George Patton of engineering. ... He’d come to us with a proposition: he’d build the Scorpion at his own expense. We’d advance him \$400,000 – refundable if the completed rig didn’t work; if it did, he’d get an added \$550,000 and 38,000 shares of Zapata Off-Shore common stock. Our feeling was that anybody who had that much confidence in himself was worth the gamble.”

FIRST JACKUP

The contract to deliver the first mobile offshore platform was signed on November 11, 1954. Construction began in late 1954 near the company’s Vicksburg plant on the shores of the Mississippi River.

With the need to overcome the design constraints of conventional platforms, its construction was considered by many in the offshore oil industry to be quite a daring attempt.

The LeTourneau Mobile Offshore Platform was basically a large, shallow-draft barge, equipped with three electro-mechanically-operated lattice type legs. Dimensions of the platform were 186 x 150 x 24 ft with a 24 x 28 ft derrick slot.



The future US Presidents George H W Bush and George W Bush at the christening of the Scorpion for Zapata Off-Shore Company. Photograph courtesy of Rowan Companies.

The hull structure comprised two 20-ft diameter barge-like hulls that were reinforced by corrugated steel plate and utilized for fuel storage, mud tanks, and water supply storage.

The three 140-ft lattice type steel legs (also known as spuds) were located on two sides and one end of the hull. Living quarters for the crew and helicopter landing pads were fitted to the deck.

In December 1955, the 4,000-ton platform “walked” into the Mississippi River under its own power. Construction of the platform was completed with the installation of a drilling derrick, pumps and associated equipment.

The platform was handed over to Zapata Off-Shore and officially christened “Scorpion” on March 20, 1956, in a ceremony where R G LeTourneau presented a 3-ft “Key to the Gulf” to Zapata’s president, George Bush.

Scorpion went into service off the coast of Port Aransas, Texas and drilled its first well for the Standard Oil Company of Texas. The rig then moved to another location off the coast of Galveston, then into the Gulf of Mexico.

In June 1956, the Scorpion set a drilling rig world relocation record by traveling approximately one mile under tow from one well site to another and commenced drilling a new well within 8 ½ hours.

Scorpion’s unprecedented repositioning speed was due to its ability to stabilize with only 5 to 7 feet of sea floor penetration and then quickly elevate. Other platforms of the day typically required as much as a hundred feet of spud penetration and days to jack before operations could begin.

Construction soon began on a second LeTourneau platform, the Vinegaroon, which was delivered to Zapata Off-Shore in early 1957. The LeTourneau platforms soon had an opportunity to prove themselves, as they were the only rigs on the Gulf Coast to withstand the forces of Hurricane Audrey in 1957 without sustaining damage. ■



R G LeTourneau, George Bush and Dick LeTourneau look over design drawings for the Scorpion jack-up, LeTourneau’s first jackup rig. Photograph courtesy of Rowan Companies.