

JE - 21 Completion Rig at Rajasthan

The John Energy Rig (JE-21) completion rig, working under the Petroleum Engineering Operations Team, commenced operations on 29th March 2009 and has completed 23 wells in Mangala pads 8, 9, 17, 6 and 13; Mang-05 workover to prepare for Barmer Hill fracing; 1 well – Raageshwari – 08 (Southern Oil Field); 3 wells in Raageshwari pad-7 (Deep Gas Field) so far till 17 Sep 2009.

JE Rig is a highly mobile mechanical self propelled (truck type carrier) 550 HP Completion & Workover rig capable to work the string with 250,000 lbs hook load. The self propelled feature of the rig is further complemented by a unique hydraulic jack based skidding system. The sub-structure has been designed exclusively for Cairn's Rajasthan Operations with the skidding system that enables the rig to move from one slot to another using hydraulic jack in just 2-2.5 hours and that too without lowering the mast.

The JE Rig has been packaged in such a way as to reduce inter pad movement time. The rig is capable of working on both multi-well pad locations and on independent locations. It has a provision to rack back pipe in the mast with finger slots to accommodate 3,500m of R2 length 4-1/2" tubing in doubles. The rig has three mud tanks with a total of 900 bbls working capacity. The rig has a 500 HP triplex mud pump with 5,000 psi rated working pressure.

The Rig is equipped for running a completion string consisting of 4-1/2" Chrome tubing with 1-1/2" coil tubing (as heater string for Mangala wells), twin encapsulated 3/8" chemical injection

lines, ESP cable and 3/4" encapsulated PDG cable. This type of completion with heater string etc is being introduced for the first time in India. To run such a completion the rig has been suitably modified with added features such as provision to hang/ secure a gooseneck to support the 1" and 1-1/2" coil tubing at the required height on the mast.

The JE Rig is also fully equipped with drilling instrumentation and equipments and is capable of drilling through obstructions using the power swivel.

The rig has been completing wells at a very good speed, the average rate at which the rig has been completing wells (including intra pad rig move time) is less than 4 days which is better than the initial estimated time. The rig has been carrying out the operations well within budget with a good HSE track record maintaining zero LTI hours till now.

The rig is all set to

complete the first horizontal producer wells in the coming months...

- Mohit Mathur

