STANLEY AREA, NORTH DAKOTA -- An extended-reach well with a 15,850-foot total depth (TD) and a 5,000-foot horizontal section required a well cleanout and composite bridge plug removal in the 4-1/2-inch screens. Software simulations indicated that the 2-inch coiled tubing would require assistance to meet the objectives of the well. Competing hydraulic tractors, as well as other extended-reach conveyance tools, were utilized on three separate runs unsuccessfully with a maximum depth reached of 14,300-feet MD.

Western Well Tool (WWT) was contacted and asked to provide its 3-3/8-inch Coiled Tubing Tractor System (CTTS) to assist in meeting the customer’s objectives. The bottomhole assembly consisted of a motor head assembly, the Western Well Tool Tractor, a Baker motor and a mill. WWT’s Tractor was used successfully to convey the coiled tubing from a lock-up depth of 13,840 feet to TD at speeds ranging from 1,200 to 300 feet per hour, depending on downhole
conditions. The customer was able to achieve circulation rates of 2.5 to 2.8 bpm at surface pressures of 3,700 to 4,100 psi. At TD, a ball was dropped through the tractor to open up a circulation port to facilitate higher circulation rates while pulling out of hole.

The second objective was to mill the composite bridge plugs left over from fracing operations of the previous three days. Eleven bridge plugs were set in the horizontal section, eight of which were milled unassisted with coiled tubing. All plugs below the 13,840-foot lock-up depth required the use of WWT’s Tractor. Western Well Tool’s Tractor successfully conveyed the tubing to the remaining bridge plugs and provided an excellent milling platform. Weight-on-bit was precisely controlled and milling progress was maximized. The short coupling of the mill to the WWT Tractor allowed the plugs to be drilled in 26, 16, and 12 minutes respectively, representing significant time savings to the customer. Optimizing the milling procedure resulted in decreased time per plug.

Headquartered in Houston, Western Well Tool (WWT) manufactures Non-Rotating Drillpipe Protectors (NRPs) for torque, drag and casing wear control and riser protection, and WWT Coiled Tubing Tractor Systems (CTTS) for drilling and intervention to convey heavy loads to extreme CT deployment targets. Full-service technical support is available for local & remote locations 24/7. Case histories and other details are available on the company’s website:


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