

Intrepid DDS Completes 10th Barnett "Turn-izontal" Well

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Intrepid Directional Drilling Specialists has recently completed its tenth complex "turn-izontal" horizontal well in the Barnett Shale play in the Ft. Worth Basin. The Barnett is different from most oil and gas fields, in that a significant number of the potential well sites are located in highly sub-divided and densely populated suburban areas. The effect is that a large number of the leases end up extremely small and irregular in shape and the available well site surface locations are severely limited in both size and placement. The ending result is that many surface locations must be placed in undesirable positions on the primary lease or in some cases, on the adjoining lease. These factors combine to limit the use of traditional directional and horizontal techniques and create a unique challenge for operators. Turn-izontal wells are variants of horizontal wells that are drilled to fully maximize the horizontal well bore within the pay zone; at the optimum azimuth direction within the pay zone; and all within the legal surface limits of the lease and lease hard lines. The objective is to enter the top of the pay zone at a target penetration point that is just within the lease hard line, at the azimuth direction that would either optimize the lease surface area or optimize the direction of the well bore within the pay zone structure. Most often the well is directionally drilled in a direction that is divergent from the base direction line, that theoretically would exist from the kick off point (KOP) to the bottom hole location (BHL). In some cases, the turn-azontal well may be drilled, as much as 90° to 180° from the base direction line; and will occasionally result in a negative vertical section. To reach the required directional path, the well bore must then be turned during the build section of the well to insure that the well bore will hit the target penetration point and enter the pay zone at the optimum depth, angle and azimuth. Intrepid has developed a significant expertise in the drilling of these horizontal well variants. The process begins with precise well planning to define the appropriate build and turn rates and to insure that the torque and drag of the BHA are within acceptable limits. Next comes the pre-spud meeting with the client, pre-job planning and equipment selection by the operations management staff; followed by the actual drilling of the well by Intrepid's experienced directional drilling staff. Finally, the entire process is critiqued at the end of the well, by the client and Intrepid's operations management staff, to identify possible areas of improvement for future wells. Take advantage of the real world experience that Intrepid can bring to your next project and let Intrepid assist you the next time you need to drill a conventional directional or horizontal well.