

VERTICAL WELL CONNECTIONS HYDROFRACING OR HORIZONTAL DRILLING

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ABSTRACT

Hydrofracing is a common method of opening up a formation to communicate with adjacent formations at the same relative depth. The fracture is caused by exerting excessive hydraulic pressure on the formation to cause a breakdown or fracture allowing the pressurized fluid to migrate through the formation to adjacent areas. This fracture cannot be directed, it will follow the path of least resistance. This method has been employed in salt solution mining for many years, and has been effective but not as successful as many operators would like.

This paper will discuss how horizontal drilling from an existing cased vertical well bore solved the connection problems on vertical wells that were fraced in a shallow layered salt formation but did not make a successful connection. This horizontal drilling technique has been employed very successfully in various new well bore interceptions for solution mining and coal bed degasification. The question facing the operator on this project was: could the formation support the tools required to drill to the vertical target well, or was the salt formation washed out with only a void remaining?

Several case histories are presented that illustrate how the horizontal drilling techniques were utilized to make a successful connection on existing vertical salt wells that had been fraced and washed but did not connect.