

APPLICABILITY OF NEW HORIZONTAL DRILLING TECHNIQUE TO SOLUTION MINING OF HALIDES

by

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ABSTRACT

Horizontal drilling methods have been around since the 1940s, though the usage has never been widespread. One of the newer drilling methods is Bechtel's horizontal drilling process. This method differs from conventional drilling in several aspects. Horizontal holes are drilled from a vertical well. The process involves hydraulic jetting through a coiled tubing with fluid exit velocities in the 900 to 1000 ft/sec range. The method which is more economical than conventional horizontal drilling methods can be used to drill as many as 24 holes in a given horizontal plane. Thus far it has been utilized in installation of about 350 horizontal wells in various oil bearing formations.

Horizontal jet injection, though not for drilling purposes, has been employed in solution mining of salt. Lateral jet injection has been used as a scheme for combatting insolubles related tubing plug-up. Studies have also been conducted in jet injection for directional dissolution; and through laboratory experiments the horizontal reach of a buoyant jet stream has been formulated.

Various possibilities for the application of horizontal drilling in solution mining have been explored and are the subject of this paper