

TECH REPORT

EDDY COUNTY, NEW MEXICO, USA
DELAWARE BASIN

| | |
|------------------|--------------------------------------|
| Lithology | Sandstone and shale |
| Borehole section | 10% in |
| Depth range | 9,816–13,595 ft [2,992 m–4,144 m] |
| Total depth | 14,944 ft [4,555 m] |

Background

A well-specific MPD design was engineered to overcome problems an operator encountered during conventional drilling operations, which included losses at a rate between 10,500 and 12,600 galUS/h [39.74 and 47.69 m³/h]. The MPD plan called for reducing surface mud weight from 12.7 to 11.8 lbm/galUS [1,522 to 1,414 kg/m³]. Additionally, surface backpressure would be applied and adjusted as needed to maintain a downhole pressure profile within the identified drilling window during all drilling activities. The MPD operating matrix would permit small inclusions to be circulated through the MPD system at full circulating rate without having to shut in the well, significantly reducing NPT related to gas influx.

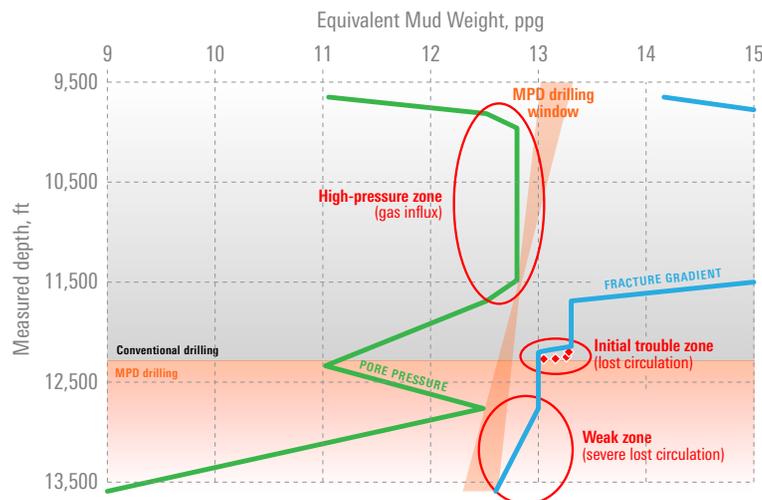
Technology

- @balance Control* MPD systems

*Mark of M-I L.L.C., a Schlumberger company. Other company, product, and service names are the properties of their respective owners.
Copyright © 2017 Schlumberger. All rights reserved. 17-MI-297616

@balance Control MPD System Saves USD 1.5 Million on Permian Basin Well

Operator reduces drilling-related costs and eliminates contingency liner while reaching target section by using MPD system in saltwater disposal well



Total depth was reached without experiencing severe losses or influx greater than the limits of the MPD operating matrix. Maximum pore pressure at the end of the 10%-in section decreased from 12.7 to 11.8 lbm/galUS [1,522 to 1,414 kg/m³] as the high-pressure zone depleted during the drilling process. Managed pressure techniques enabled the operator to reach the final section without running a contingency liner, saving substantial costs.