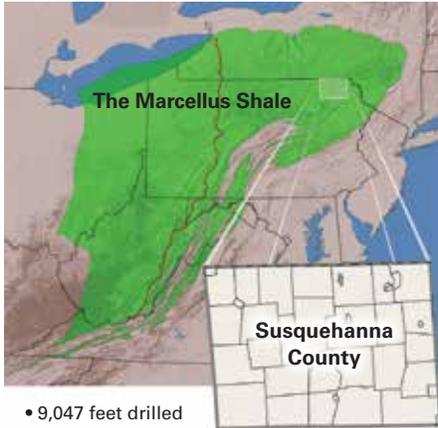


In the Upper Marcellus Shale Play, a Halliburton SteelForce™ bit drills entire curve and lateral with the fastest ROP in Susquehanna County.



- 9,047 feet drilled
- 67.3 ft. per hour average ROP

OVERVIEW

The Marcellus Shale contains a geologic formation stretching from Ohio to New York. Some believe it may contain the largest supply of natural gas in the United States. Halliburton's Application Design Evaluation (ADESM) specialist using the company's industry-unique Design at the Customer Interface (DatCISM) process worked in collaboration with the customer near the far northeast corner of the state to come up with the best solution to drill a combination curve and lateral well over a mile beneath the earth's surface, in one run.

Halliburton's 8 1/2" SteelForce™ bit (SFD54) was put to work drilling a total of 9,047 feet. It successfully drilled the curve and then went on to drill the entire lateral and the total depth (TD) as well. This was actually the second SFD54 bit on the pad to drill the entire curve and lateral and it had the fastest overall average ROP of all the offsets at 67.3 ft/hr, which no competitor had matched. In addition, the SFD54 bit provided exceptional tool face control and had an excellent dull grade of 1-2-WT-S-X-I-NO-TD.



CHALLENGES

- Increase rate of penetration
- Maintain ROP over extended period
- Manage Thermal Mechanical Integrity™ (TMI), or frictional heat generation

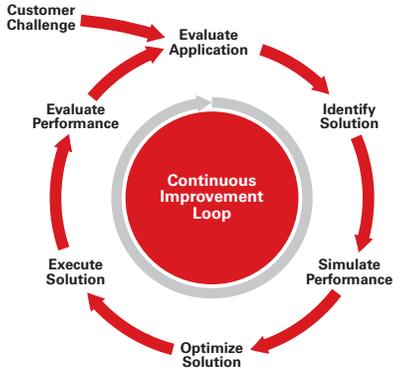
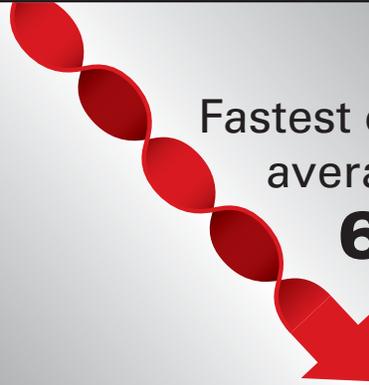
SOLUTIONS

- Aggressive 5 blade design balances tool face control with ROP and efficiency needs.
- SteelForce bits' large flow area and anti-balling coating helps with cuttings removal and bit balling while micro nozzles get the right flow to the right place on the bit face.
- SteelForce bits are designed with SelectCutter™ PDC Technology that enables the bit to manage higher temps before diamond-to-diamond bond damage and cutter wear begins.

9,047 feet drilled



Fastest overall
average ROP
67.3 ft.
per hour



Unique Design
at the Customer
Interface
(**DATCI**SM)
process helps
ensure the
specific bit for
a specific job

8 1/2" SFD54
fastest ROP
in county



Most advanced steel body bit in industry.

The SteelForce™ drill bit is manufactured with an anti-balling coating and higher blade standoff that increases face volume for improved cuttings evacuation and higher ROP. SteelForce body bits are used for larger diameter surface applications, intermediate hole sizes, and curve and lateral applications. They are highly effective in formations with more than 40 percent shale and with water-based muds. An Application Design Evaluation (ADESM) specialist working directly with the customer locally designs each bit for each specific application.



Benchmark for cutter technology.

When it comes to advancing diamond cutter technology, Halliburton is the acknowledged leader. For durability, integrity, and effectiveness, Halliburton offers a wide variety of cutters for a broad range of bit designs and applications. SteelForce bits stay sharper longer. Once they do begin to wear, they wear more slowly. The result is a bit that drills farther, faster—while it reduces the cost per foot drilled.



If you're challenged with increasing your rate of penetration and decreasing your cost per foot drilled, look to the best solution—application specifically designed SteelForce drill bits from Halliburton.