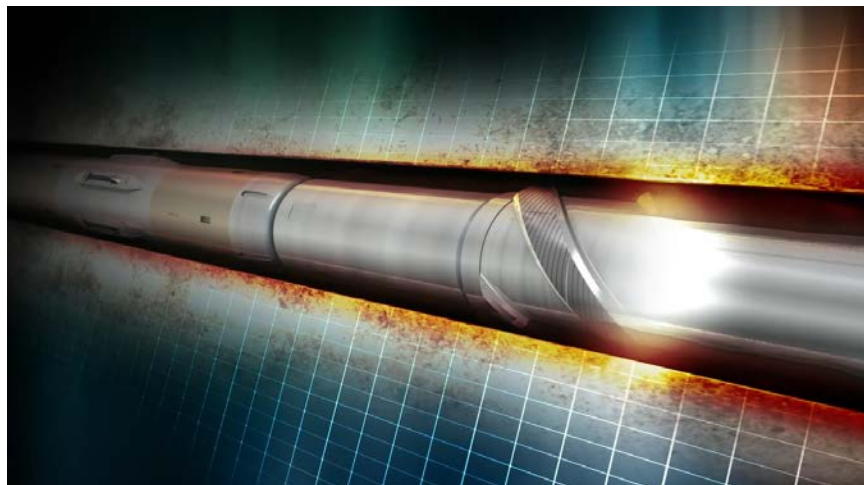


Revolution® Heat RSS Achieves Record ROP in the Eagle Ford, Reduces Drilling Cycle by 2 Weeks, and Saves ~\$1.5 Million



The Revolution Heat RSS executed a challenging well plan—including an 11°/100 ft (11°/30 m) dogleg—and set a client record for ROP while drilling in the Eagle Ford.

Objectives

- Drill six horizontal wells on a single pad to total depth (TD) in the Eagle Ford Shale play. Because of the abrasive nature of these formations, the client anticipated severe vibrations and temperatures up to 330°F (166°C).
- Determine optimal drilling parameters to maximize rate of penetration (ROP) and drill each well in a single run.

Our Approach

- Weatherford performed formation analysis and recommended drilling parameters to optimize ROP, minimize stick-slip, mitigate the risk of tool failure, and drill each well to TD in a single run. The parameters included using variations in weight on bit, rotations per minute, and tool deflection throughout the lateral sections.
- Using the Revolution Heat rotary-steerable system (RSS), which is optimized for high-pressure, high-temperature (HPHT) environments, the team drilled all six wells to TD. The average ROP across all wells exceeded 180 ft/hr (55 m/hr).
- The Revolution Heat RSS drilled one well at an average ROP of 227 ft/hr (69 m/hr)—a record among all wells operated by the client in the Eagle Ford. The same well also required a substantial dogleg. The Revolution Heat RSS built a 91° curve at a rate of 11°/100 ft (11°/30 m).

LOCATION

Texas, United States

WELL TYPE

Onshore, horizontal, oil

FORMATION

Eagle Ford Shale

HOLE SIZE

8-1/2 in.

TOOL SIZE

6-3/4 in.

DEPTH

In: 6,196 ft (1,889 m)

Out: 18,240 ft (5,560 m)

AVERAGE ROP

All six wells: 180 ft/hr (55 m/hr)

Record-setting well: 227 ft/hr (69 m/hr)

MAXIMUM TEMPERATURE

330°F (166°C)

MAXIMUM PRESSURE

4,670 psi (32 MPa)

RUNS PER WELL

1

PRODUCTS/SERVICES

- Revolution Heat RSS
- DownLink Commander® bidirectional communication technology
- HAGR™ sensor
- TVM™ sensor
- HEL™ measurement-while-drilling system



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Value to Client

- Following the drilling parameters recommended by Weatherford and using the HPHT-optimized Revolution Heat RSS, the operator completed the drilling cycle 14 days faster than average. This resulted in a savings of approximately US \$1.5 million in rig time and equipment costs across the entire drill pad.
- The average ROP of 227 ft/hr (69 m/hr) achieved in one well was twice as fast as the average ROP achieved in similar offset wells drilled with competing RSSs.
- The Revolution Heat RSS landed each well in a single run and eliminated the need for intervention.



* Revolution is a registered trademark of Weatherford in the US and Canada. DownLink Commander is a registered trademark of Weatherford in the US.