Increase in Average ROP Across Multiple Wells in the Permian Basin Utilizing HailStorm

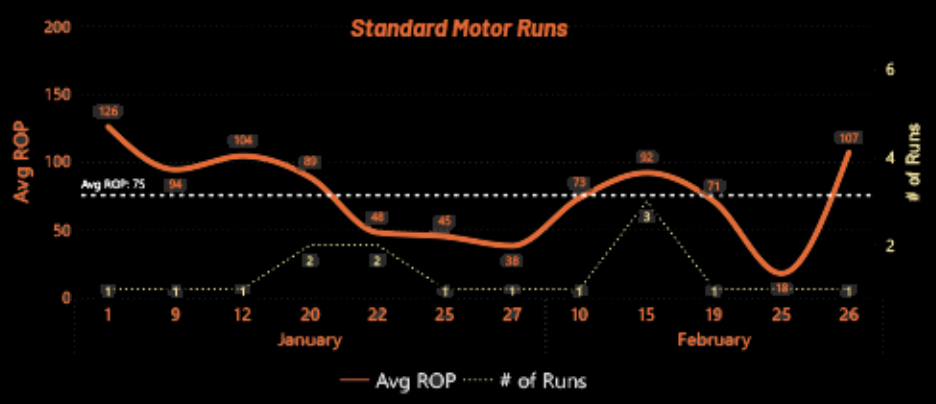
CASE STUDY

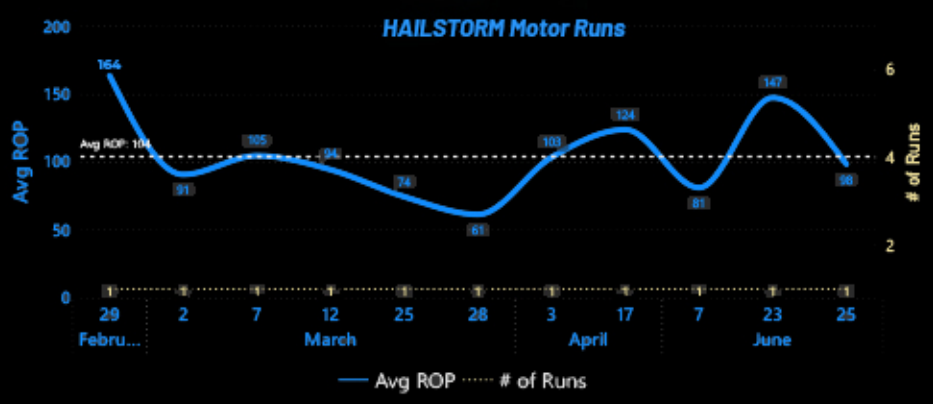
Stryker Directional re-engineered the minimum bypass configuration on its pin-down mud motor to optimize performance when paired with its RSS services, resulting in the launch of HailStorm. By reducing the motor bypass, a greater percentage of drilling fluid flow is directed through the tool and pad actuation system. As components wear during extended runs, fluid bypass is further minimized, resulting in more predictable steering response. This results in higher pad contact pressure, improving steering capability in formations that can push the tool off course.

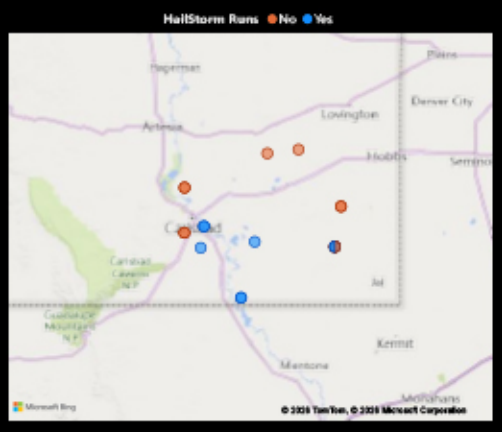
The reduced bypass also increases effective flow to the bit nozzles, delivering higher hydraulic horsepower at the bit. Additionally, this improves cuttings removal and bottom-hole cleaning, which contributes to higher rates of penetration (ROP) and more efficient drilling performance.

Over the past two years, Stryker has deployed HailStorm across multiple customer wells in the Permian Basin. The combination of the optimized motor and RSS system delivered an increase in ROP by over 33% (25 ft/hr) or approximately a 25% increase in drilling performance. This increase in drilling efficiency translated directly into reduced drilling time and lower costs for operators.

HAILSTORM PERFORMANCE OVERVIEW







Standard Success Rate

49,349
Total Footage

660
Total Hours

HAILSTORM Success Rate

41,565
Total Footage

426
Total Hours

STRYKER DIRECTIONAL