Intelligent drilling optimizer delivers consistent, optimal performance

Challenge:

A leading global upstream and downstream operator sought to achieve consistent drilling performance across multiple rigs within the same geographic area . Their primary objectives were to improve the rate of penetration (ROP) while simultaneously reducing tool failures.

Solution:

To address performance variability across multiple rigs with different personnel, NOV deployed its Intelligent Drilling Optimizer (IDO), Kaizen™, to deliver consistent, optimal drilling parameters. Employing artificial intelligence, it continuously evaluates drilling performance based on current wellbore conditions, compares it to offset well data, and recognizes environmental changes. This approach enables the KAIZEN system to instantly respond to changing conditions and provide optimal weight on bit (WOB) and revolutions per minute (RPM) setpoints. By integrating MWD data, Kaizen provides enhanced vibration mitigation– directly supporting the operator's objectives to reduce tool failures. The operator deployed Kaizen in two regions across three basins providing an overall ROP increase of 48%, reducing bit trips up to 33% and saved 389 hours in 2024.

Timeframe: 2024

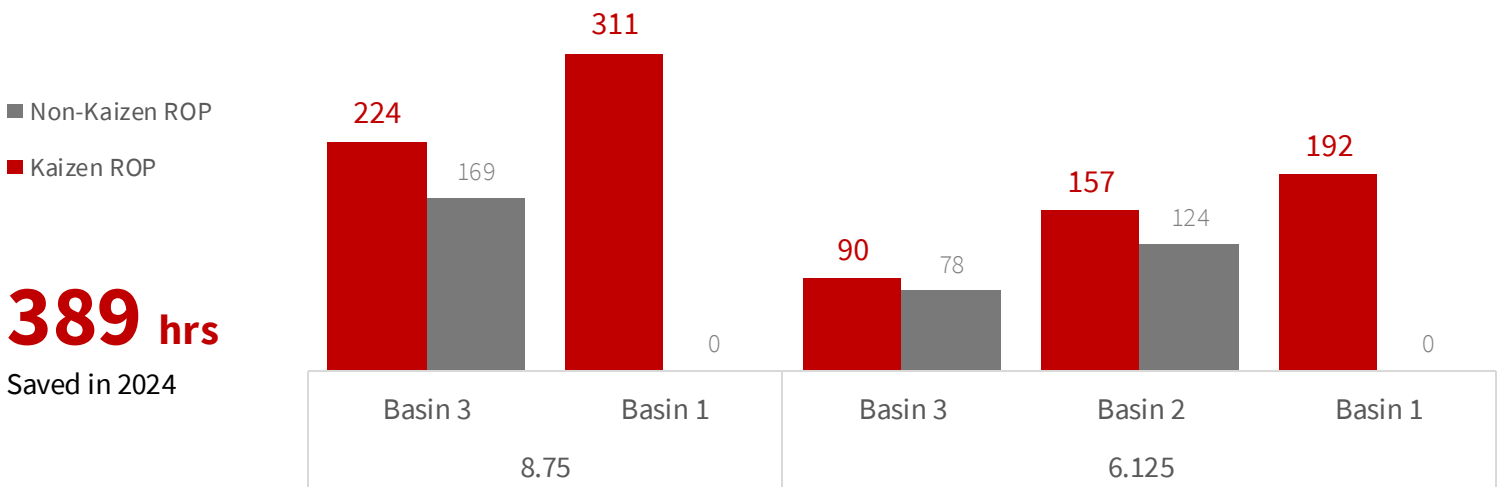
Area: West Texas, New Mexico

Well Count: 72

Results:

- 48% ROP increase vs basin offsets enabling 389 hours saved for the year.
- Best performing rigs had over 90% Kaizen utilization.
- Integration of MWD channels enabled seamless vibration mitigation to reduce tool failures
- Up to 33% decrease in bit trips

ROP by Section



389 hrs

Saved in 2024