

Lithology	Shale, sandstone, limestone
Bit diameter	8¾ in
Interval	Horizontal
TD	12,000+ ft

Background

Escondido Resources has consistently seen positive performance and toolface control using a specific PDC bit design with 11- and 13-mm cutter sizes. To improve energy transfer to the bit, Escondido increased the size of its drillpipe but continued to operate using the same bit design with similar parameters. This resulted in lower apparent bit performance and ring-out dull condition with no obvious explanation.

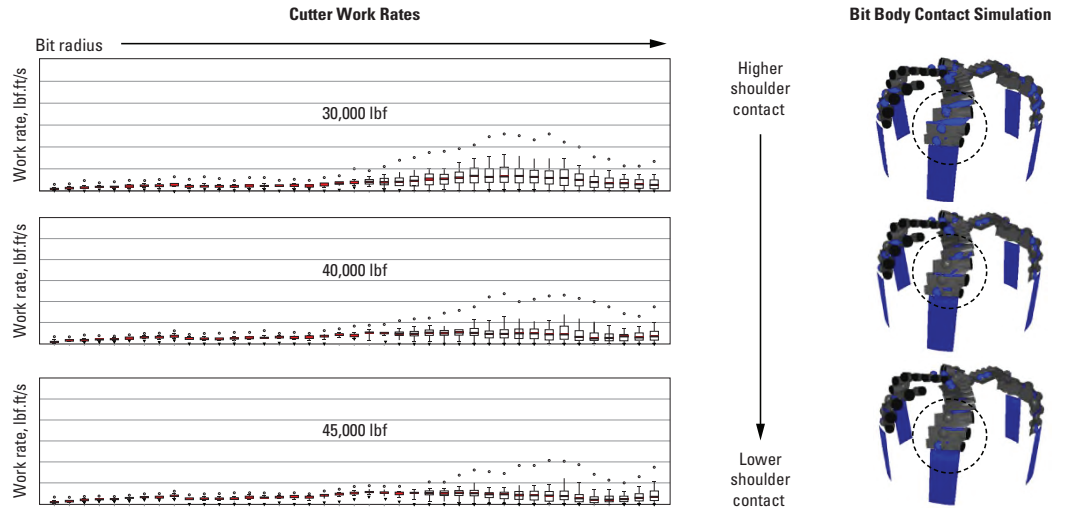
Technologies

- Synapse* performance insights and optimization service
- IDEAS* integrated dynamic design and analysis platform

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Escondido Uses Downhole Instrument Data and Analysis to Solve Operational Challenge

Synapse service delivers drilling insights to improve drillbit performance



Synapse service enabled engineers at the Schlumberger Customer Performance Center (CPC) to identify shock events and operating conditions of improper low WOB causing ring-out. CPC engineers used the IDEAS platform to show that a lower WOB will result in higher work rates on shoulder cutters, causing ring-out on the bit, as shown in the images to the right. Based on this analysis, product engineers recommended adjusting the operating parameters to consistently maintain a higher WOB in the curve.