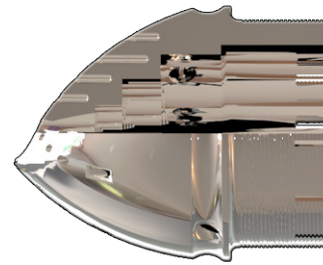


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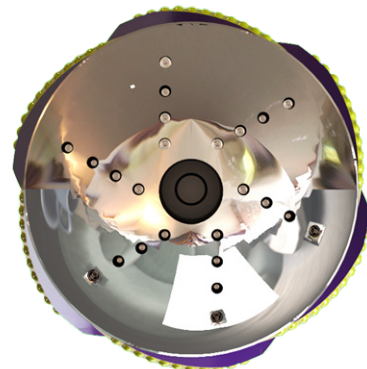
EZI-DRILL® ALUMINIUM NOSE SIGNIFICANTLY REDUCES DRILL-OUT TIMES

TECHNOLOGY: Downhole Products Ezi-Drill aluminium nose comes as standard on all DHP Pen-O-Trator® and pilot guide shoes 6 5/8" and above. The Ezi-Drill nose feature removes around 30% of the internal nose material coupled with strategically placed "breakup" voids to encourage aluminium breakup into manageable pieces. As the shoe is drilled the aluminium will breakup into pieces either small enough to be circulated back to surface or of a size that will inbed into the side wall of the new section below.



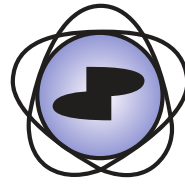
CHALLENGE: A major Caspian Sea operator contacted DHP regarding the maximum allowable set down weight the 9-5/8" Pen-O-Trator reamer shoe aluminium Ezi-Drill nose was capable of withstanding.

- A load in excess of 250,000 lbs. without damage/deformation to the nose section.
- To gain an accurate max-load rating for the
- 9 5/8" Pen-o-trator® reamer shoe.



PERFORMANCE: Load testing was performed at Downhole Products API accredited test facility. The Ezi-Drill nose was screwed into the test nose holder (a steel body with the same thread and dimensional profile as the 9 5/8" Pen-O-Trator). The test assembly was then lowered into a profiled concrete base.

For further information on this tool and proposed applications, please contact your local DHP representative. Specifications may be liable to change without prior notice.



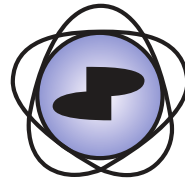
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Once the assembly had been lowered a load of 400,000 lbs. was applied and held for 10 minutes, the assembly was then raised and the nose checked for damage, no deformation of the nose had occurred and the nose was unscrewed by hand to inspect the threads. Both nose and body threads were found to be unaffected by the loading and in excellent condition.



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To ensure the nose was capable of withstanding the most challenging of operations, when a full string weight of 12,000 ft of 53.5# 9 5/8" casing (buoyed weight) was slacked off onto the nose, in a vertical well with none of the weight being taken by the hole geometry, a weight of 520,000lbs was applied and held for 10 minutes. The nose was once more removed (by hand) and checked with no damage to the nose, threads or body noted.



Based on the testing performed, the DHP Ezi-Drill Aluminium Nose (standard on all 9 5/8" Pen-O-Trator and Pilot Guide Shoes) is load rated to a max set down weight of 520,000lbs.

(Full Test Report available on request)

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