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## **News Release - H-1® Perforating System**

Titan Division

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### **Hunting's H-1® Perforating System Advances Safety, Stage Efficiency and Success Rates**

#### ***Next Generation Perforating System Eliminates Common Issues Associated with Conventional Perforating Guns***

HOUSTON - Hunting, the international energy services company, today reported that operators using its Titan Division's H-1® perforating system have performed more than 38,400 runs since introduction last year without any safety-related incidents and with fewer personnel. The H-1 system provides operators with an advanced select fire perforating gun system that has no wires from gun to gun, fewer connections, no exposed detonating cords and real-time shot verification.

"The H-1 perforating system's safety and operational features are performing extremely well in the field and have provided for our customers a record of zero safety incidents, a 'game-changing' success rate, and a significant increase in operational efficiency," said Rick Bradley, President of Hunting's Titan Division. "After more than 8,200 stages involving 38,400-plus runs to date throughout North America, our customers are seeing incredible reliability, but more importantly, no safety incidents related to the equipment."

The H-1 perforating system, introduced in 2016, addressed common causes of misruns by eliminating the potential for pinches or nicks in the lead wire, reducing the risk of O-ring seal-point failures, and providing more precise operational confirmation downhole on the gun string's status, which reduces lost time to misruns. Eighteen pounds of loaded weight per gun was also eliminated, and the tool string was shortened to allow more guns to be run per stage.

One service company/operator completed over 3,300 stages totaling more than 16,000 H-1 guns with zero failures. By comparison, a successful run rate for conventional gun systems is one failure for every 200 stages.

The service company/operator also reported an 80% decrease in gun loading time, 66% elimination of seal connections, and the replacement of three wire connections with the H-1 system's simple cartridge insert.

Another service company/operator perforated approximately 3,000 stages without a single H-1 system-related misrun. In their review of the H-1 perforating system, several cost efficiencies were noted, including fewer personnel on site, reduced time spent handling live explosives and preparing perforating guns, and less time onsite during frac/plug-and-perf operations.

According to Bradley, these cost-efficiencies were by design. "Our team engineered a "next generation" system. Electrical contact components replaced the lead wire so there is no wire from gun to gun. More than half of the O-rings were eliminated in the gun assembly because of our box-by-oin design, and we used Hunting's ControlFire® package to provide real-time shot verification and confirmation."

ControlFire gives customers the option to skip over a perforating gun failure and continue firing. In contrast with conventional perforating gun systems, when an error occurs in the firing sequence, the perforating operations stop; the gun string is removed from the wellbore and disassembled for troubleshooting.

The H-1 perforating system’s third-party tested initiating system enhances safety by protecting personnel from inadvertent explosive detonations. The H-1 perforating system is electrically unarmed until multiple specified software commands are given from the surface after the tool is safely below ground.

“We addressed the primary reasons for conventional gun misruns and commercialized a system that not only mitigated common failures but also significantly improved personnel safety and operational efficiency,” said Bradley.

For more information on Hunting’s H-1 perforating system, visit us at: <http://hunting-intl.com/titan/perforating-guns-and-setting-tools/h-1%C2%AE-perforating-system>.



Hunting’s H-1 Perforating System

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*Hunting PLC is an international energy services provider to the world’s leading upstream oil and gas companies. Established in 1874, it is a premium listed public company traded on the London Stock Exchange (LSE: HTG). The Company maintains a corporate office in Houston and is headquartered in London. As well as the United Kingdom, the Company has principal operations in Canada, China, Indonesia, Mexico, Netherlands, Singapore, South Africa, Thailand, United Arab Emirates, and the United States of America.*

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