

Systems That Deliver Clean Tunnels

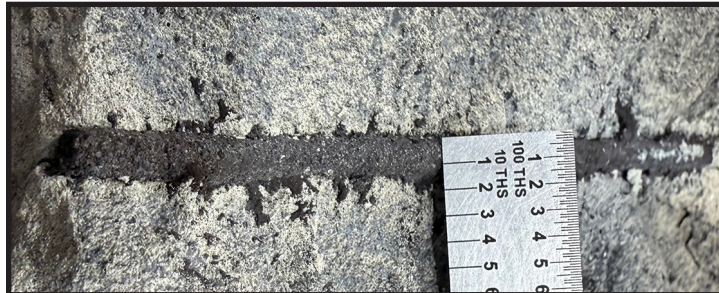
Whether you call them DP, SDP, XDP, or something else, many deep penetrating shaped charges share a common dark secret...

For generations, they've been optimized for a meaningless target - a barrel of concrete under surface conditions. And a charge optimized to maximize penetration in concrete can perform terribly when shot into shale - especially when the well is in an overbalanced condition.

Deep penetrating charges incorporate dense metals in the liner to create a high-momentum jet capable of punching through hard material. Things like, copper, lead, and tungsten.

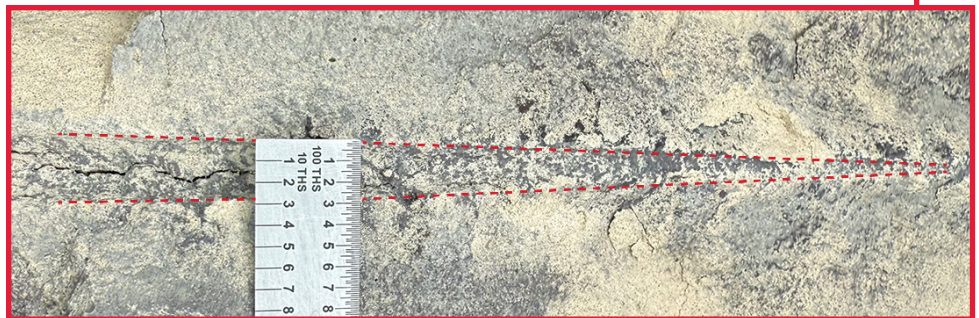
When they're shot into shale, the result is usually a skinny tunnel (<0.25" diameter) that's plugged with hard to remove debris - especially tungsten.

**Result with
Typical XDP
Charges**



Narrow tunnel, plugged with tungsten debris

**System
Optimized for
Clean Tunnels**



Wide, debris free tunnel (often with fractured tip)

So before you spec that charge with 70" API RP-19B Section 1 penetration, think about optimizing for the target you actually want to shoot.

Deploy an SWM system designed to deliver clean tunnels, load with our AdvancedAlign™ Deep or Advanced Breakdown charges.

Because deeper is only better when it creates an effective flow path between the well and the formation.