

DOWNHOLE
PRODUCTS

SPIR-O-MIZER® AND PEN-O-TRATOR® ... DOUBLE DUNT!

CHALLENGE: A Texas operator had been having difficulties getting his casing to TD without having to rotate the string to progress in hole. The rotation required was not only adding to the RIH time it was also, at times, reaching the torque limit of the casing connections.

TECHNOLOGY: The operator had read a recent DHP case history, where an operator had experienced similar problems and had gone with DHP recommendations to run with the Spir-O-Mizer solid blade centralizer in conjunction with a ridge riding Pen-O-Trator reamer shoe to guide the string to TD.

The operator contacted DHP and placed his order.

PERFORMANCE: Direct from the operator-

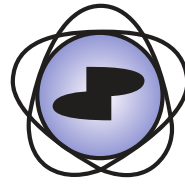
We ran 5-1/2" 17# HCP-110 VARN to TD in a 10,179ft up-dip lateral at 7,100ft TVD without rotation or having to work one joint down. We tipped casing the entire lateral to TD. Lateral was 8.5" holesize.

Due to offset producing wells, a sidetrack, and surface location a 46 deg turn was put in the lateral the first 1,544ft from 226 azm to 180 azm instead of nudging over. We have gone to running Pen-O-Trators on the 9-5/8" casing string also. With DHP and centralizers we tipped casing to bottom in our longest, probably toughest well design to date with zero issues. We will continue running DHP shoes, floats, & centralizers in our drilling program.

- Jeremy Compton, Drilling Manager, Earthstone Energy

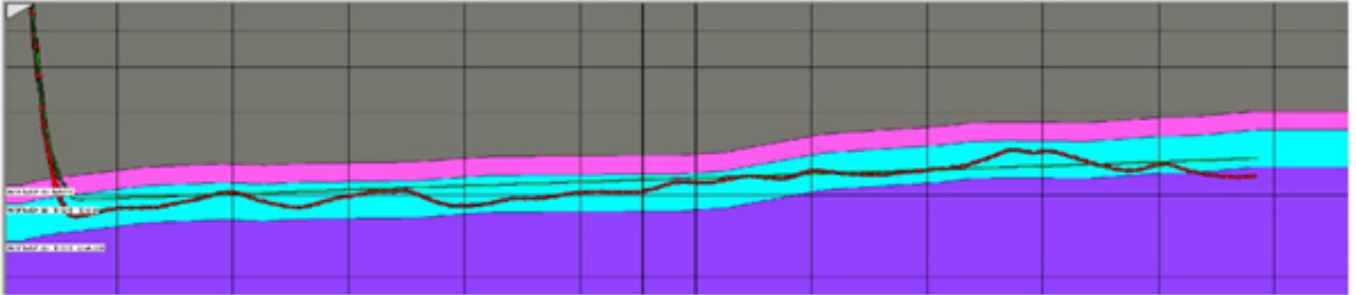


For further information on this tool and proposed applications, please contact your local DHP representative. Specifications may be liable to change without prior notice.

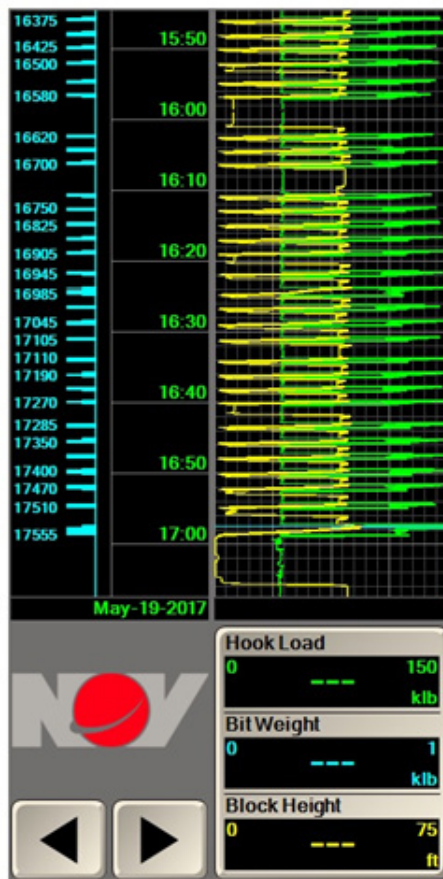


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The actual well path



FROM	TO	HRS	Activity Code	Activity Description	Drill From	Drill To	Footage	Hours	ROP
06:00	17:00	11.0	Run Csg & Cement	Continue RIH with 5.5" production casing 16700' to 17555' with no issues, landed casing in wellhead with landing joint whanger. Ran a total of 10162' without filling pipe. Made up floatation collar at 10164' and started filling up on the fly and stopping every 20 joints to ensure pipe was full last 7400'. Ran a total of 439 joints of casing.	17,584	17,584		11.0	



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