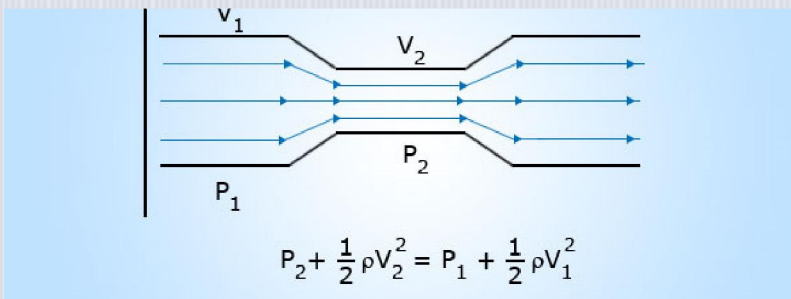




## ExP Power Sub

*ExP has been able to implement fluid conditioning and manipulation properties to successfully manufacture technologies that can help assist in the recovery of both Oil and Gas during work-over (cleanout) operations.*



## Situation

•••

**Location:** Haynesville, East Texas

**Problem:** 100 feet of progress in 4 days of drilling 10 lb dehydrated (solidified) drilling mud mixed with debris in the wellbore

**Procedure:** The **ExP Power Sub** was deployed via 2 7/8" third party workover string. An initial pump rate of .75 bbls/min was pumped with circulation pressure <500 psi. When the Solidified mud was encountered at 5,750' the fluid rate was increased to 3 bbls/min which increased the hammer effect of the fluid passing through the exit ports of the bit. After 2 minutes, the rock bit broke through the harden bridge. The WO string was pushed to TD at an average of 25ft/min. Once the flow-back returns showed less than a trace amounts of solids, the operation was complete.

**Total Time from RIH to TD:** 6 hours 30 minutes

**Result:** Mud and debris removed

Pre-ExP Power Sub:  
**100' in 4 days**

Post ExP Power Sub:  
**4,560' in 3 hours**

## Case History

Dehydrated (solidified) 10lb drilling mud post cement squeeze

**Objective:** Utilize 2 7/8" WO string with 2 7/8" ExP Power Sub with 3 5/8" rock bit to drill and remove mud and debris from inside the casing utilizing produced water.

Tubing: 2 7/8"

Casing: 5.5"

Well TD: 10,310'

Helik ExP Sub: 2 7/8"

WO Speed: 5-20ft/min

Circulation PSI: 500-3,000

Fluid Flow Rate: .75bbls-3.5bbls/min

N2 Flow: N/A

Acid: N/A