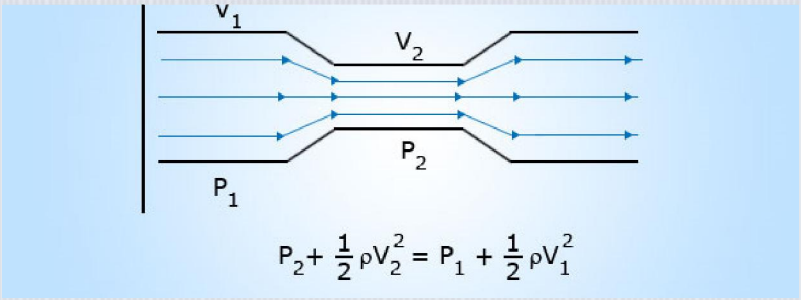
ExP BHA

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.



Case History

Calcium Carbonate Scale with some Fe in tubing, casing, and near wellbore region

Objective: Utilize 1.25" CT with the 1.33" ExP BHA for removal of blockages and scale from tubing, casing, perforations and near wellbore region, utilizing produced water acid and N2 (when needed). Spot 8% inhibited and HCL acid across the perforations to help with stimulation of the formation.

Tubing: 2 3/8"

Casing: 5.5"

Well TD: 8,375'

CT Size: 1.25"

CT Speed: 50-100 ft/min

Circulation PSI: 1,900-4,500

Fluid Flow Rate: .25 bbls – 1 bbls/min

N2 Flow: 200-500 CFM

Acid: 10 bbls

Situation

Location: Permian Basin, West Texas

Problem: **Calcium Carbonate** scale in tubing, casing and near wellbore region

Procedure: The ExP tool was deployed via 1.25" third party coiled tubing. An initial pump rate of .25 bbls/min was pumped with circulating pressures of 1,200psi. When a blockage was encountered, the CT was picked up by 50ft and the fluid rate was increased to .5 bbls/min, which removed the debris blockage which was seen at surface 16 minutes later. Throughout the operations large pieces of scale and debris was observed in the flow-back returns at surface. As depth progress continued fluid rates increased to increase AV's, while the turbulent flow kept solids in suspension. Upon complete removal of all scale and debris, 8% HCL acid was spotted across the perforations to help stimulate the near wellbore region.

Total Time from RIH to TD: 4 hours 19 minutes

Result: Removed all Scale

Pre-ExP Intervention:
83 bbls

Post ExP intervention:
157 bbls