GasGun Stimulation Bypasses Nearbore Damage and Dramatically Increases Perforation Hole Depth

BACKGROUND
In June of 2012 an operator in Reeves County chose to perforate and shoot GasGuns to stimulate the Wolfbone formation @ 10,506’. The Wolfbone reservoir of West Texas consists of complex, low-porosity (4-10%)/low permeability (nanodarcy to millidarcy) sequences of sand, shale and carbonate layers which typically need to be stimulated to be commercial. When the service provider ran the perforating guns out of the hole after the shot there was black water in and on the perforating equipment but no signs of oil. After swabbing the well had no oil. The service provider then ran the GasGun over the same interval. Once the GasGuns were fired and brought out of the well they were covered in “Lime green oil” according to both the operator and the service provider. Later swabbing and production showed that the GasGun was able to stimulate the zone and connect the wellbore with the desired productive zone with good result. The specific production data itself was asked to be kept proprietary by the operator but they have since completed more wells using the GasGun for stimulation.

SOLUTION

Nearbore Damage

- Remove skin from perforators, drilling, cement, etc.
- Fractures created at every perforation tunnel
- Improve effectiveness of acidizing