Shale DPEX Section 2 Test

DPEX again proves superior in hole size and perforating channel geometry

In the past few years, shale plays have become one of the major sources of unconventional natural gas. In the United States they now contribute over 50% of the total natural gas produced. DYNAenergetics is already extensively present in this application field through its RF-Safe and Selective perforating system, which has enhanced the safety of operations and helped reduce the time and cost of perforating.

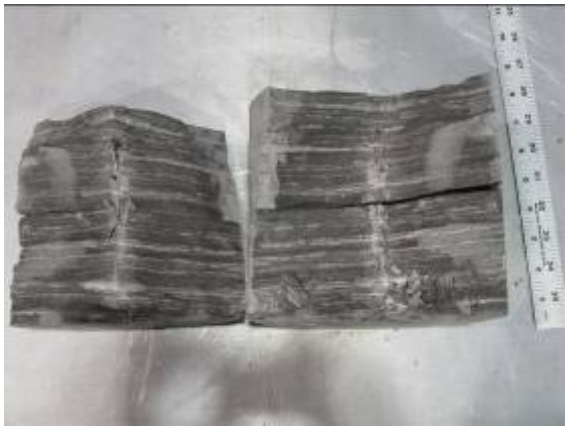
Following confirmation of the superiority of the DYNAenergetics DPEX charges by independent flow tests for DP charges, DYNAenergetics decided to transfer the reactive liner technology to their existing GH shaped charges, as these charges are one of the preferred shaped charge types for shale plays.

Since surface tests looked very promising, DYNAenergetics decided to perform API RP 19B Section 2 type testing. Section 2 type tests are generally done in rock targets at downhole conditions. The targets used in this test series measured 7" in diameter and were 30" long while confining pressure was 8,000 psi and pore pressure 4,000 psi. The wellbore pressure was adjusted to 5,000 psi, resulting in a 1,000 psi overbalance. The first test series was done in sandstone and compared a standard DYNAenergetics 23g HMX GH charge to a 23g HMX GH DPEX charge with a reactive liner.

23g HMX GH in sandstone

23g HMX GH DPEX in sandstone

BAFL1757 shows the results of the standard GH charge and BAFL1760 those of the GH DPEX reactive liner charge. As can be seen, the perforating channel geometry and the clean-up of the DPEX charge are more favourable. The second series of tests was done with the same charges but in Mancos shale.



23g HMX GH in shale

23g HMX GH DPEX in shale

Again, the results show that the perforating channel geometry and the clean-up of the DPEX charge are more favourable. This open, clean tunnel offers optimum conditions for frac initiation.