

# New technology sets IP milestone in deep gas well: Pennsylvania

KRYPTOSPHERE LD reduces completion costs while delivering among Utica's highest flow rates

## Utica Shale, Greene County, PA

### The challenge

CONSOL Energy controls roughly 85,000 net acres prospective for the Utica Shale within its Southwestern Pennsylvania operating area, including some 58,000 acres in Greene and Washington counties. The operator planned to target the underlying Utica in a well to be drilled within its existing Marcellus Shale field in Greene County. To access the Utica deep gas horizon, the well program called for a total vertical depth (TVD) of 13,500 ft with a 6,141 ft lateral. Owing to the stresses at this depth, enhancing production and overall economics required a proppant with maximum conductive strength and the capacity to increase propped fracture volume and sustain maximum reservoir drainage.

### The solution

To help meet its production and economic objectives, the operator selected the newly engineered KRYPTOSPHERE® LD ultra-conductive, low-density ceramic proppant for a field trial in its deep Utica gas well. Mono-sized with exceptional strength, durability and smoothness, KRYPTOSPHERE LD technology is designed to deliver high conductivity across the entire range of low to high-stress well conditions. It significantly exceeds the conductivity of existing low-density proppant, with a dramatically lower beta due to the smooth proppant grains, ultimately providing higher production and estimated ultimate recovery (EUR). In addition, the KRYPTOSPHERE LD technology provides comparable and, in many cases, higher conductivity than intermediate-density and bauxite ceramics, while delivering improved proppant transport and increased propped fracture volume.

### The results

The first field application of the KRYPTOSPHERE LD ultra-conductive, low-density ceramic proppant proved to be a resounding success. The well flowed at an initial production (IP) rate of more than 61.9 MMcfd in a 24 hr period, which at the time made it one of the Utica's highest producing gas wells. What's more, KRYPTOSPHERE LD technology eliminated the need for gel and cross-linked fluids, thereby reducing overall completion costs.

CONSOL Energy Director of Regional Operations Kirby Walker said of the impressive field trial, "Integrating KRYPTOSPHERE LD technology into our completion design is an example of how CONSOL Energy has achieved the completion efficiency that has allowed us to showcase three of the top ten dry Utica well results to-date across the industry."

Three additional deep Utica operators are now utilizing KRYPTOSPHERE LD for their completions in this deep gas environment and experiencing similar positive results.

### Well Data

Operator: CONSOL Energy

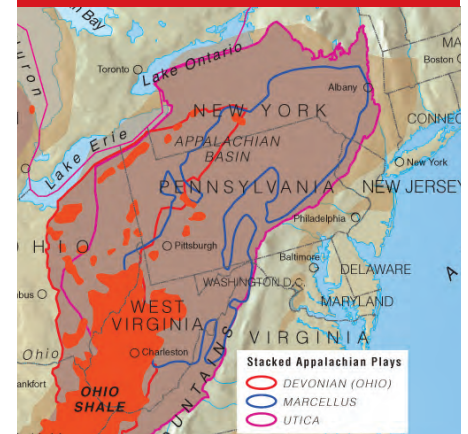
Location: Utica Shale, Greene County, PA

Well type: Gas

Well depth: 13,400 ft TVD; 6,141 ft lateral

24 hr IP rate: 61.9 MMcfd

Proppant: KRYPTOSPHERE LD ultra-conductive, low-density ceramic proppant



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