

# Comstock Uses BroadBand Sequence Service to Increase Gas Rate 700% in Haynesville Shale Well

Refracturing improves immediate and short-term production of natural gas well

## CHALLENGE

- Increase and sustain gas rate in a high-pressure gas well in the Haynesville Shale.

## SOLUTION

- Use BroadBand Sequence\* fracturing service to enable effective refracturing through engineered application of a crosslinked fluid coupled with a proprietary, fully degradable chemical diversion plug made up of a blend of particles and fibers.

## RESULTS

- 700% immediate increase in gas rate to 4,000 Mcf/d.
- 300% immediate increase in flowing pressure.
- 400% sustained three-month increase in gas rate to 2,500 Mcf/d.



## Identify damaged wells and repair fracture networks

Comstock Resources wanted to optimize production of its gas wells in the Haynesville Shale. To do so, Comstock needed to address two major factors that contribute to the underperformance of horizontal natural gas wells in the Haynesville: understimulation of the lateral and high bottomhole pressure drawdown. High drawdown pressures degrade both fracture extent and conductivity, substantially reducing production potential. Comstock opted to use refracturing as a low-cost means to reinvigorate existing fracture networks in damaged wells and initiate new fractures in undepleted rock.

## Refracture well with BroadBand Sequence service to restore fracture connectivity

Comstock selected the PACE 33 HZ #1 as the first of its wells in the Haynesville Shale to be refractured. Thorough candidate analysis suggested it had likely experienced high drawdown coupled with low proppant volumes during the initial completion. For the refracturing treatment, fracturing fluid and proppant were diverted along the horizontal extent of the wellbore without the need for mechanical isolation by using BroadBand Sequence service chemical diversion techniques. Degradable fibers in both the fracturing fluid and composite diversion pill were used to improve proppant transport along the lateral to create new fractures, reconnect existing fracture networks, and enhance the stimulated reservoir volume.

## Increase immediate and short-term production

In a March 2015 press release, Comstock touted the "success of the company's first Haynesville Shale refrac." Immediately following the refracturing operation, production surged to 4,000 Mcf/d from 500 Mcf/d while flowing pressure increased 300%. In the first three months after refracturing, the well sustained a production increase from 500 Mcf/d to 2,500 Mcf/d.



Gas production increased from 500 Mcf/d to a monthly average of 2,500 Mcf/d after the BroadBand Sequence service refracturing treatment in February 2015.

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