

## **Subsurface 3D Structural Characteristics of the Lewis Shale, Southern Washakie Basin, Wyoming.**

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The Lewis Shale is an important natural gas reservoir in the eastern Green River basin, Wyoming. This study models the present structural interpretation of a 105 mi<sup>2</sup> (272 km<sup>2</sup>) area in the Washakie basin, south-central Wyoming. The objectives of this study are to help resolve the effects of fractures as conduits for gas production. This study will attempt to explain why the production rates of some wells are good, whereas others a short distance away are poor.

The main deliverable is a 3D model that has been balanced, that is, the beds have been reconstructed back to their original depositional position. A kinematic strain analysis of this model will then indicate directions for stress and open fracture orientation. The data used to build this model include 8 horizons and 4 faults mapped from 3D seismic, 8 cores and 4 borehole image logs. The core and borehole image logs were used to identify and describe fractures and borehole breakouts.