The Fayetteville Shale in Arkansas will be one of the nation's most prolific regions for natural gas production, with reserves that can be economically extracted through 2050, according to a study released last week.

The Bureau of Economic Geology at the University of Texas at Austin analyzed the basin's production history as well as areas that have not yet been drilled.

The assessment showed that the Fayetteville has 38 trillion cubic feet of recoverable natural gas reserves.

Of that, 18 trillion cubic feet would be feasible to extract at natural gas prices around $4 per million British thermal units, the researchers said.

Natural gas for February delivery was selling at around $4 per million British thermal units Friday on the New York Mercantile Exchange.

The U.S. consumed about 25 trillion cubic feet of natural gas in 2012.

The UT study also identified different tiers of production within the shale play, delineating areas where natural gas could be extracted at lower costs.

Caption: Southwestern Energy A University of Texas study says Arkansas has a long future in natural gas production.