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20 things you ought to know about the Barnett Shale:

1 During the Middle to Late Mississippian Age (about 350 million years ago), North Texas was under an ocean. Over the course of millions of years, the ocean dried up and sea creatures died. The mud hardened into rock and the organic matter decomposed and produced methane, the predominant component of natural gas. The methane deposits then became trapped in the porous rocks in the shale's layers.

2 The formation is named after John W. Barnett who settled in San Saba County during the late 19th century and named a local creek the Barnett Stream. During early 20th century geological mapping exercises, geologists noticed the shale near the stream and borrowed the name.

3 The Barnett Shale is about a mile below more than 5,000 square miles of land, which encompasses 18 counties in North Texas. Connecticut could fit inside this area.

4 It may be the largest onshore natural gas field in the United States, containing more than an estimated 26 trillion cubic feet of natural gas.

5 Other major U.S. shale fields include the Marcellus (which stretches from New York to Ohio and West Virginia), and deposits in Michigan, Illinois and Louisiana.

6 Cumulative gas production through 2007 was 3.69 trillion cubic feet of natural gas and 11,596,245 barrels of oil.

7 Yes, oil. Oil is being found in northwest Wise County and along the Red River, but exploration for oil has just begun and it's not yet known how profitable it will be in the shale.

8 As of January, 8,960 wells had been drilled. Tarrant county is home to 1,473, which is the fourth greatest among the counties.

9 Each well could enrich local coffers by as much as \$2.5 million over its 10- to 20-year lifetime.

10 The economic impact of the Barnett Shale to North Texas totals more than \$5.2 billion in annual output. More than 83,000 jobs have been created to date by the gas field.



11 The total direct and indirect effect on local governments in the region was about \$227.7 million in 2006.

12 And that's just the beginning. The Perryman Group projects gains of an average of more than 108,000 jobs and \$10.4 billion in output per year in the 18-county region through 2015.

13 Fort Worth is expected to garner about \$732 million in royalties and lease signings over a 20-30 year period. Property tax revenues could bring that total to more than \$1 billion.

14 The estimated royalty income for a Tarrant County royalty owner with 25 percent royalty and .22 acres in a one-well unit is \$4,304 for the first year (about \$358 month) and \$25,985 for the life of 30 years, without re-fracturing the well.

15 But most expect these wells will be re-fractured within the first seven years of production, increasing the production to at least double. If the cycle of re-fracturing is continuous through the years, it could triple the life of the wells — and the income.

16 Urban drilling is not a new practice, but drilling in the heavily populated Barnett Shale area is the first time it's been this extensive or well publicized.

17 According to the U.S. Department of Energy, 22 percent of energy consumption in America comes from natural gas.

18 Natural gas is used for heating, generating electricity and transportation. It is also a raw material used in many products like plastics, medicines, fertilizers and dyes.

19 When natural gas comes out of the ground, it contains a mixture of gases, but it is predominantly methane, which is what comes into your house — and out of cows.

20 Natural gas is the cleanest of the hydrocarbons used as fuel because it releases vastly fewer harmful emissions than oil and coal when burned, which makes it more environmentally friendly.



Sources: Powell Barnett Shale Newsletter, Barnett Shale Energy Education Council and The Perryman Group. Photo courtesy Neeley School of Business.