

OHIO OIL & GAS ENERGY EDUCATION PROGRAM



**Ohio Natural Gas and Crude Oil  
Economic Impact Study**

*Since 1860, when Ohio's first commercial well was drilled, the natural gas and crude oil industry has made significant contributions to the state's economy. In September 2011, Kleinhenz & Associates completed an independent 2010 Economic Impact Study that demonstrates how these Ohio energy producers positively impact the state's economy in a variety of ways. A summary of that Study is shown below.*

**REINVESTMENT OF REVENUES**

Ohio's natural gas and crude oil industry reinvested approximately \$238 million on new exploration and development in Ohio.

**GROSS STATE PRODUCT**

Ohio's natural gas and crude oil industry, via its expenditures, generated approximately \$988 million in gross state product and had a statewide output or sales of \$1.7 billion last year.

**ROYALTIES AND "FREE" NATURAL GAS**

Ohio's natural gas and crude oil operators (producers) distributed \$90 million in royalty payments to local landowners, schools, businesses and communities, and provided an additional \$61 million in free natural gas to those mineral interest owners with wells on their properties. Since 2000, more than \$1 billion in royalty payments has been paid which significantly boosted local economies.

**TAX REVENUES**

Ohio's natural gas and crude oil industry paid \$32.7 million per year in federal, state and local taxes:

TYPE OF TAX	ANNUAL AMOUNT
Severance	\$2.5 million
Commercial Activity	\$2.8 million
Ad Valorem (Property)	\$5.7 million
Income (Federal)	\$17.4 million
Income (State & Local)	\$4.3 million
Total	\$32.7 million

**JOBS AND PERSONAL INCOME**

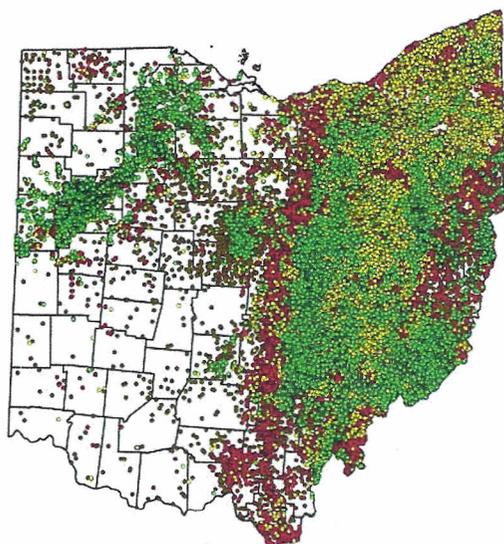
Ohio's natural gas and crude oil industry supports more than 4,490 direct jobs which contributes to a total of 12,950 Ohio jobs due to the leasing, royalties, exploration, drilling, production and pipeline construction activities in various geological formations within Ohio.

The industry was responsible for \$793 million in annual salaries and personal income to Ohioans in 2010.

**CONSUMER IMPACT**

Ohio kept \$718 million in the state by buying locally-produced natural gas and crude oil.

Ohio consumers saved \$30 million in avoided interstate pipeline transportation costs, and another \$9.2 million due to the price reducing impact that Ohio's natural gas supply has on U.S. market.



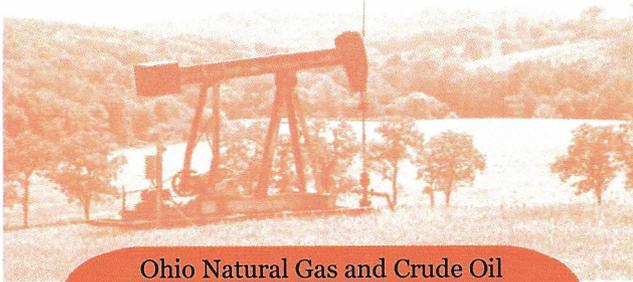
*To date, there have been more than 275,000 wells drilled in Ohio. Today, there are more than 64,000 wells producing natural gas and crude oil in Ohio.*

**Ohio's Natural Gas and Crude Oil Industry  
Economic Impact Study Results**

Source: Kleinhenz & Associates - September 2011 Economic Impact Study - Ohio's Natural Gas and Crude Oil Industry

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Ohio Natural Gas and Crude Oil

## Energy Benefits

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### Historical Background

The Ohio natural gas and crude oil industry has a rich heritage. According to history, Ohio lays claim to the first discovery of crude oil in the United States from a well, drilled decades before the Civil War. In 1814, while digging for salt along Duck Creek in what is now Noble County, Silas Thorla and Robert McKee made the first discovery of crude oil in the U.S. At the time, salt was a valuable commodity to settlers because of its effectiveness in preserving food. Initially, the crude oil proved a nuisance to salt production. But after a short time, entrepreneurs bottled the new product as Seneca Oil for the treatment of rheumatism, sprains and bruises.

In 1860, Ohio's first crude oil well was drilled in Macksburg, 10 miles southeast of the Thorla-McKee well. The Macksburg/Dexter well became the first commercial well drilled in Ohio, preceded a few months earlier by the famous Colonel Drake discovery in Pennsylvania. Commercial natural gas production began in 1884.

By the end of the 19th century, large-scale exploration and production of natural gas and crude oil began in Pennsylvania, New York, West Virginia and Ohio. Nowhere else in the United States has commercial natural gas and crude oil production existed longer than that located within the Appalachian Basin.

### Modern Industry

Today, we continue to provide energy to farms, homes, schools, churches and businesses across the state. Ohio has drilled more than 275,000 natural gas and crude oil wells in 76 of Ohio's 88 counties (Figure 1). Ohio ranks fourth in the nation in the number of wells drilled following Texas, Oklahoma and Pennsylvania. Today, most natural gas and crude oil is produced in the eastern half of the state. Currently, there are over 64,000 wells located in 53 Ohio counties (Figure 2).

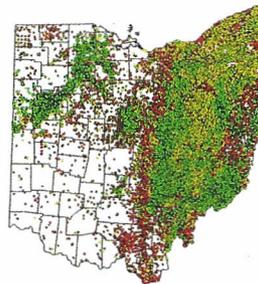


Figure 1

Last year, Ohio produced more than 78 billion cubic feet of natural gas and 4.8 million barrels of crude oil. That's enough natural gas to heat more than 1 million Ohio homes and businesses each year. Nearly 100% of the natural gas produced in Ohio is used right here in our state.

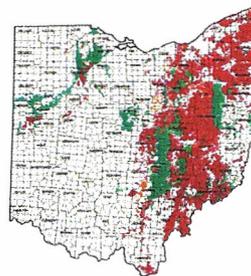
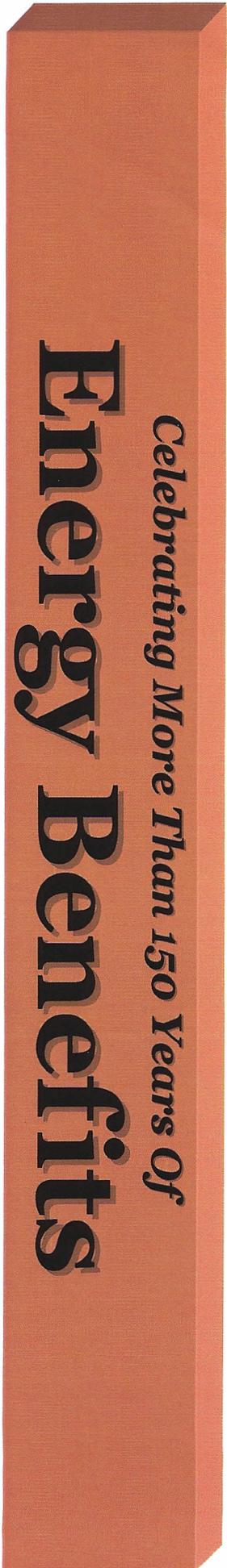


Figure 2

The importance of Ohio's supply of these natural energy resources is indeed significant and cannot be overlooked, as natural gas and crude oil alone account for nearly 65% of the total energy consumption in the United States. As the state's supply adds to the national supply, these domestic energy resources help us to be less dependent on foreign energy supplies.

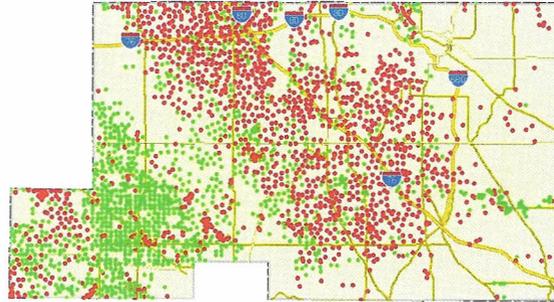
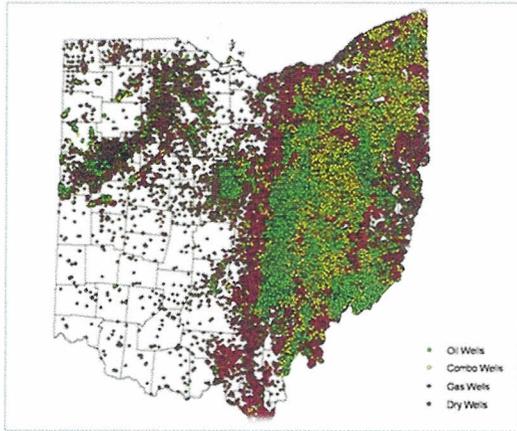
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Ohio Natural Gas and Crude Oil  
**Mahoning County**



**Total Number Producing Wells: 2,456**

**Total Number of Wells Drilled: 4,232**

*Map Source: Ohio Department of Natural Resources, Division of Geological Survey*

*Data Source: Ohio Department of Natural Resources, Division of Mineral Resources Management*

**Annual Domestic Energy Production:**

**7,390,097,000 cubic feet of natural gas**

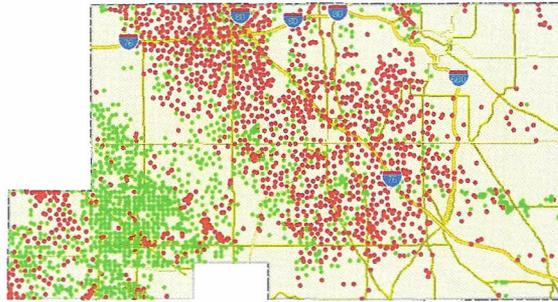
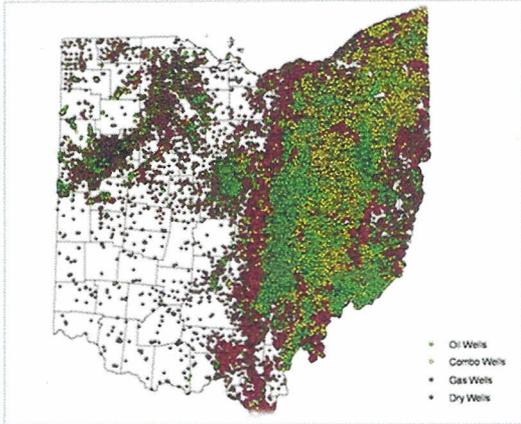
**200,045 barrels of crude oil**

**Annual Landowner Royalties: \$6,500,298.47**

**Mahoning County**  
*Ohio Natural Gas and Crude Oil*  
**Facts**



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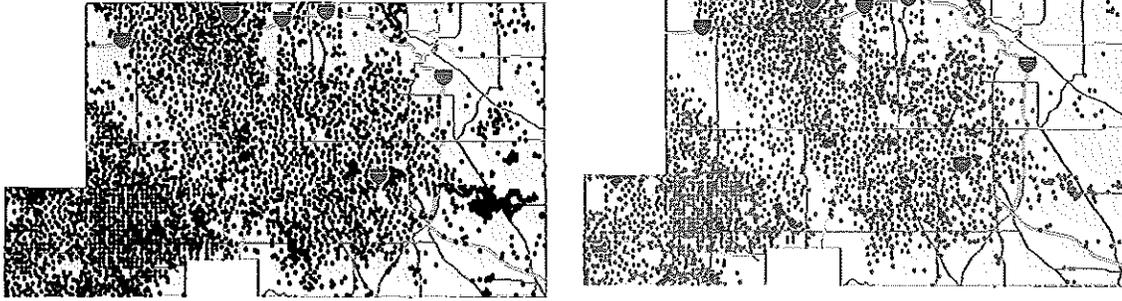
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**Ohio Energy  
Proud.org**

Ohio Natural Gas and Crude Oil  
**Mahoning County**



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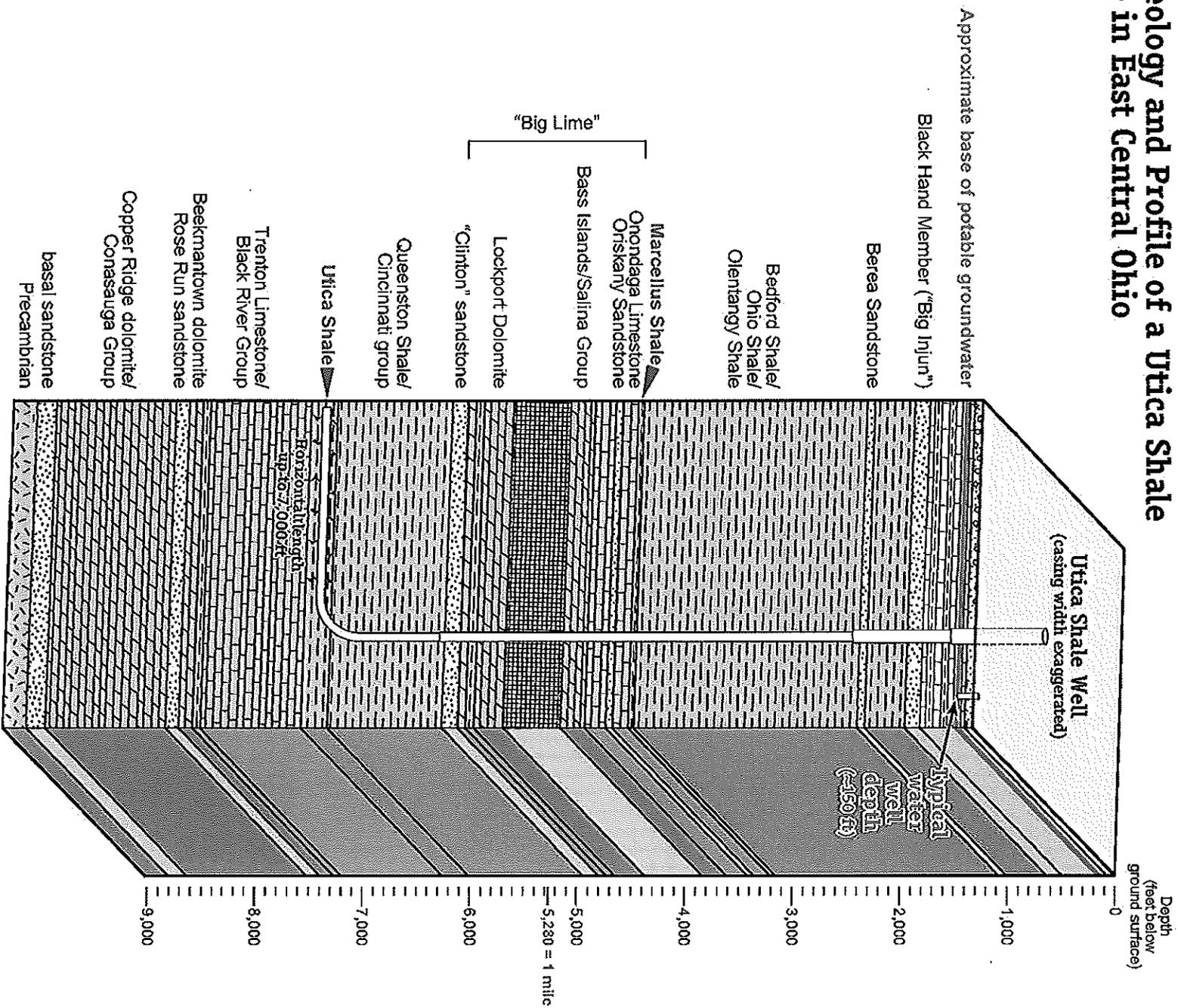
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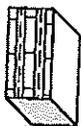
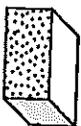
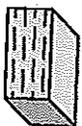
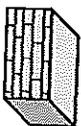
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# Mahoning County Facts

*Ohio Natural Gas and Crude Oil*

# Generalized Geology and Profile of a Utica Shale Well Prototype in East Central Ohio



-  Interbedded sandstone, shale, coal, and limestone
-  Interbedded salt, anhydrite, dolomite, and shale
-  Sand and Gravel
-  Sandstone
-  Shale
-  Limestone
-  Dolomite
-  Precambrian

