

leases is straightforward. For multiple-well leases, a formation-evaluation specialist may be able to estimate production from individual wells, but most likely that assignment is just an educated estimate.

Oil and gas production figures may be obtained from the Oklahoma Tax Commission (Appendix 1), Geo Information Systems (Appendix 5), IHS Energy Group (Appendix 5), and some consulting geologists (see question 28). Another source is the Natural Resources Information System (NRIS) database, which can be accessed at the OGS Computer Facility (Appendix 1). The NRIS database includes monthly lease and field production from 1979 to the present, using figures reported to the Oklahoma Tax Commission.

35. Has anyone ever explored for oil and gas in my area? What is the possibility of future production here?

Drilled wells and seismic lines are evidence for exploration. The potential for future production is dependent on technical evaluation and the price of petroleum.

The best way to determine whether there has been any exploration in your area is to determine whether any wells have been drilled. A number of organizations have maps showing the locations of all the oil and gas wells in Oklahoma; they are described in question 27. In some cases, seismic exploration may have been done in an area but was not followed up with a well. Numerous private brokers of seismic data have maps showing where seismic lines have been run. (The seismic data are extremely expensive, but maps of the lines are not.) However, no broker knows the locations of all the seismic lines, and those run for major oil and gas companies are proprietary and neither the data nor the locations of the lines are available.

The potential for future production can be determined only by trained geologists and geophysicists. After examining enormous amounts of data, they may recommend drilling a well to test the area. Whether the well can produce oil or gas in economic amounts depends on a number of factors, not the least of which is the market price of the oil or gas. More land in Oklahoma becomes prospective if the price of oil and gas is high rather than low.

36. How much oil and gas is left in Oklahoma?

The State has about 599 million barrels of proved crude oil reserves, 59 million barrels of indicated additional crude oil reserves, 13,645 billion cubic feet of proved dry natural gas reserves, and 698 million barrels of proved natural gas liquids reserves. (A barrel is 42 U.S. gallons.) (Figures from "U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves, 1998 Annual Report," by the U.S. Department of Energy.)

Proved reserves of crude oil are the "estimated quantities . . . of crude oil which geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions." Proved reserves of natural gas are the "estimated quantities which analysis of geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions." Proved reserves of natural gas liquids are "those volumes of natural gas liquids (including condensate) demonstrated with reasonable certainty to be separable in the future from proved natural gas reserves, under existing economic and operating conditions." Indicated additional reserves of crude oil are "quantities of crude oil (other than proved reserves) which may become economically recoverable from existing productive reservoirs through the application of improved recovery techniques using current technology." (Definitions from U.S. Department of Energy report cited above.)

As the definitions suggest, the amount of crude oil and natural gas reserves in Oklahoma depends on economic conditions, specifically, the price of oil and gas. There are far more oil reserves in Oklahoma if the price is \$50 per barrel than if it's \$20 per barrel.