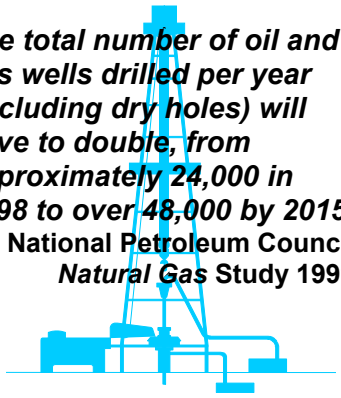
ipaa
America's Oil & Gas Producers

Geological And Geophysical Costs



The total number of oil and gas wells drilled per year (including dry holes) will have to double, from approximately 24,000 in 1998 to over 48,000 by 2015.
National Petroleum Council *Natural Gas* Study 1999

Geological and geophysical (G&G) surveys are used to locate and identify properties with the potential to produce commercial quantities of oil and natural gas, as well as to determine the optimal location for exploratory and developmental wells.

Background

G&G expenses include the costs incurred for geologists, seismic surveys, and the drilling of core holes. These surveys increasingly use 3-D technology rather than the conventional 2-D technology used for most of the last seven decades. Previously only very large companies were able to utilize this state-of-the-art, computer-intensive, 3-D technology because of its high cost and the considerable technical expertise it requires. However, as the costs of computer technology have declined, more and more domestic independent producers are making use of this technology. Still, while 3-D seismic provides a vastly superior tool for exploration, it is far more expensive than 2-D technology. 3-D seismic surveys usually cost between five or six times more per square mile onshore than the older technology and, in some instances can account for two-thirds of the costs of some wells. Encouraging use of this technology has many benefits:

- **More detailed information.** Conventional 2-D seismic is only able to identify large structural traps while 3-D seismic is able to pinpoint complex formations and stratigraphic plays.
- **Improved finding rates.** Producers are reporting 50-85% improvements in their finding rate. In prior years a producer might have to drill three to eight wells in order to find commercially viable production.
- **Reduced environmental impact.** Because the use of advanced seismic technology significantly improves the odds of drilling a commercially viable well on the first try, this reduces the number of wells that are drilled and, thus, reducing the footprint of the industry on the environment.
- **Investment capital.** Many investors are requiring producers to provide 3-D seismic surveys of potential development before committing their capital to the project in order to minimize their risk.

Geological and Geophysical Costs (Continued)

Current law treatment

G&G cost treatment was changed in the Energy Policy Act of 2005 to rationalize its structure and to encourage domestic exploration and production of oil and natural gas by allowing faster recovery of G&G costs. These changes provided for 24 month amortization of domestic G&G costs after they are incurred. Subsequently, in 2006, Congress extended the amortization period to 5 years for the largest integrated oil companies.

Prior tax treatment of G&G costs required them to be considered as capital expenditures recovered through cost depletion over the life of the field. G&G expenditures allocated to abandoned prospects could be deducted upon such abandonment, but they were not deductible until an abandonment decision was made. The revised provision applies equally to successful or unsuccessful projects, basing the tax treatment on when the costs were incurred.

Reasons for change

These costs are an important and integral part of exploration and production for oil and natural gas. They affect the ability of domestic producers to engage in the exploration and development of our national petroleum and natural gas reserves. Thus, they are more in the nature of an ordinary and necessary cost of doing business.

These costs are similar to research and development costs for other industries. For those industries such costs are not only deductible, a tax credit is available.

Crude oil imports are at an all-time high; crude oil prices have soared due to a tight world oil market and uncertainty over stable supply. The U.S. remains vulnerable to sharp oil price increases or supply disruptions. The 1999 National Petroleum Council *Natural Gas* study concluded that natural gas supplies need to increase by over 30 percent by 2010 to meet demand. Domestic exploration and production must be encouraged now to offset this potential threat to national security, to meet future needs, and to enhance our economy. Allowing the deduction of G&G costs would increase capital available for domestic exploration and production activity. For example, a recent John S. Herold analysis concluded that the 50 largest independent producers are reinvesting 150 percent of their domestic cash flow back into domestic projects.

The technical “infrastructure” of the oil services industry, which includes geologists and engineers, has been moving into other industries due to the inherent volatility of the industry. Stimulating exploration and development activities would help rebuild the critical oil services industry.

Status

High oil prices are encouraging some Administration and Congressional policy makers to broadly extend the amortization period or repeal the Energy Policy Act revisions. Both options should be rejected because the consequences of such actions would be to reduce domestic investment in new oil and natural gas development.

February 2007