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MONEY IN THE GROUND

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# Money

## IN THE GROUND

by JOHN ORBAN III



**MONEY  
IN  
THE  
GROUND**

***New 2006***

**Insider's Guide  
to  
Oil and Gas Deals**

by John Orban, III

4th Edition (4.5)

Meridian Press • Oklahoma City

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the oil and gas discovered on their prospects. Independent geologists often generate prospects and provide exploration services in return for cash and/or some form of participation in production revenues.

## Finding Oil & Gas

“The present is the key to the past.” Natural earth processes we witness today have gone on for millions of years. The basement and foundation of the continents consists largely of granite. Through natural exposure to the elements, granite becomes physically and chemically altered to form soil and grains of sand. These are eroded, and then transported by ice, wind, and water to the oceans (or sometimes, inland lakes). Layer upon layer of these continental sediments settle on the seafloor. By understanding processes that control the transport and deposition of different types of sediments, the geologist also understands spatial relationships of the sediments. Clean quartz sands are found along a wave swept coastline. Black muds are found in lagoons. He applies this knowledge of sedimentation to rocks millions of years old.

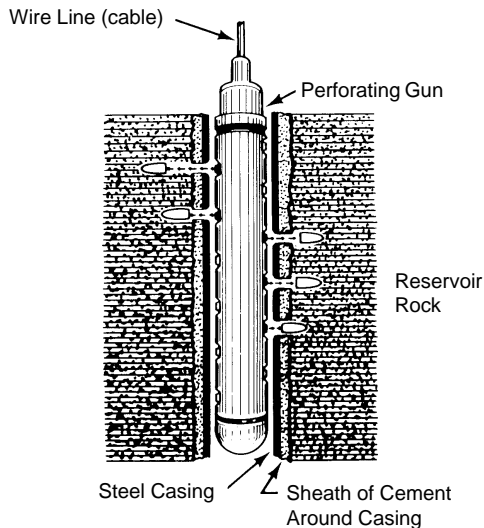
Large oil fields have rarely been found among volcanic islands or in the deep ocean basins. Granite also does not occur in the ocean basins. It forms the foundation of the five continents, and appears to be a critical factor in the efficient generation of petroleum. Natural weathering and erosion of granite produces a special family of clays. Buried with organic matter and subjected to high tem-

production test data and calculates the volume of reserves attributable to the well, and estimates the well's production capabilities.

There are about 31,000 petroleum engineers in the U.S.<sup>37</sup> If employed by an oil company, a petroleum engineer is usually paid an annual salary. Independent petroleum engineers may consult on an individual basis, for compensation in cash and/or a share of production revenues.

## Getting The Well to Flow

Once the decision has been made to complete the well, production casing is run in the borehole and cemented in place. Production tubing is run down



*Bullets are shot through the casing into the reservoir rock*

Figure 6.2 Perforation

# Chapter 8

## SELLING OIL AND GAS

### *Who gets what?*

---

Producing a gas well is a relatively simple proposition. It amounts to basically turning on a valve. Selling the gas, however can be rather complicated.

Producing an oil well can be complicated, involving much surface and downhole equipment including expensive pumping, units, etc., but selling the oil is pretty straightforward.

# Chapter 11

## DEAL STRUCTURES

### *Among oil industry partners*

Scientific exploration for oil and gas demands the integration of four essential ingredients:

#### **PROSPECT**

The scientifically reasoned hypothesis that a commercially exploitable accumulation of oil or gas exists at a specific defined location. The hypothesis can be tested only by the drilling of a well.

“undivided fractional interests in oil, gas or mineral rights”, it may be possible that securities laws generally may not apply.

When the investor arranges for another party to manage his oil and gas investments under an investment or exploration contract, however, the transaction will certainly be classified as a security, regulated by applicable securities law. In this case, in addition to the cost of the investment, such a transaction also bears the costs of compliance with securities regulations (at both state and Federal levels), plus whatever compensation is paid to the party managing the investment. During the past 10-15 years, limited partnerships have become the popular avenue by which many individual investors participate in (non-equity) oil and gas investments.

## What about risk?

Risk is ‘the possibility of loss or injury’, and it attends virtually every human endeavor. There is some risk involved in crossing the street, but the typical adult pedestrian has learned to successfully manage the risk involved. He observes the flow of traffic, knows about how long it would take him to get to the other side, and waits for an adequate window of opportunity which will allow him to get to the other side.

In the early days of oil and gas exploration, drilling for oil was seen to be highly speculative ... and in most cases it was! The origins of petroleum were unknown. The science of petroleum geology was in its infancy. The science of geophysics had not



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**ACIDIZING** - Pumping acid (usually hydrochloric acid) into a *reservoir*. As the acid dissolves *calcite*, the naturally occurring holes in the rock are opened and enlarged, facilitating increased flow from the *reservoir*. *Limestones* are frequently treated with acid. *Sandstones* may be treated with acid if they contain calcite. (The acid does not affect the quartz grains making up the *sandstone*.) See also *fracturing*.

**ACRE** - The most common unit of land measure in the United States. A square 210 feet on a side (44,100 sq ft) would be a bit larger than an *acre* (43,560 sq ft). There are 640 acres in a square mile.

**ACRE-FOOT** - In the U.S., the thickness of a *pay zone* is measured in feet, and the area of the *reservoir* is measured in *acres*. An acre-foot is a volume of *reservoir* rock that is one *acre* in area and one foot thick. Estimates of recoverable oil or gas from a particular *reservoir* are generally expressed in *barrels* of oil per acre-foot, or in *MCF* (thousands of cubic feet of gas) per acre-foot. Commercial oil recoveries typically range from about 50 to 500 barrels per acre-foot, gas recoveries range from about 10 to 1000 MCF (thousands of cubic feet) per acre-foot.

**ADJUSTED BASIS** - The *basis* (or cost) of property increased (for *capital improvements*) or decreased (for investment *tax credits* and *depreciation allowance* adjustments to gross income) used in computing gain or loss, for income tax purposes. See *basis*.

**AFE** - See *Authorization For Expenditure*.

**AIR DRILLING** - Drilling in which the circulated drilling fluid is air, rather than liquid mud. Uses an 'air hammer' that pulverizes rock cuttings to

*Listen to what the experts are saying about*

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