COMMERCIAL BANK DOMESTIC AND INTERNATIONAL PETROLEUM FINANCING

GARY R. PETERSEN
Republic National Bank of Dallas

INTRODUCTION

This paper will concern itself specifically with the methods used by commercial banks in financing the development of oil and gas reserves both in the U.S. and overseas and both onshore and offshore. It must be emphasized at the outset that banks do not finance wildcat wells and, in fact, only loan money on proven reserves. This does not mean that the field must be developed nor does it mean that the reserves must be producing, but rather the field must be defined with enough wells drilled to assure the bank engineer or the bank's consulting firm that the reserves are proven.

ENGINEERING REPORT

Once the field or wells are deemed to be commercial and the company desires to borrow money against the reserves to finance the development, the bank engineers or an engineering consulting firm will prepare an engineering report similar to that depicted in Table 1. It should be emphasized that the reserve report must contain only proven reserves and that the bank does not ascribe value to probable or potential reserves. The price of oil used is a judgment factor, but generally banks use the FEA-controlled price for old oil and the FEA roll-back price for new oil with escalation at some small percentage each year. Gas prices used in engineering reports are generally contract prices plus escalation clause rates. Operating costs are based on what similar costs in similar areas have been in the past or on historical performance in the case of producing reserves and are escalated at some small percentage each year.

Price of oil is $10 per bbl and the discount factor is eight percent in this example. These two variables

TABLE 1 - TYPICAL ENGINEERING REPORT FOR ABC OIL COMPANY

Years	Bbls	Future Revenue	Operating Costs	Future Net Revenue	P.W. Future Revenue	P.W. Future Net Revenue
1	5,000	$50,000	$10,000	$40,000	$48,500	$39,000
2	4,000	40,000	8,000	32,000	37,000	30,500
3	3,000	30,000	7,000	23,000	26,500	21,000
4	2,000	20,000	6,000	14,000	16,000	11,500
5	1,000	10,000	5,000	5,000	5,500	2,500
Total	15,000	$150,000	$36,000	$114,000	$133,500	$104,500

can easily be changed to see what effect different oil prices or discount factors have on the value of the properties. Typically, several cases are run, and the banker will pick the case that he feels is most realistic at a given point in time. P.W. is an abbreviation for present worth and is used to transform future income into the equivalent dollar value today. It should be noted that the only difference in P.W. Future Revenue and in P.W. Future Net Revenue is operating costs.

LENDING TECHNIQUE

The bank will use the engineering report and loan some percentage of the P.W. Future Net Revenue. A rule of thumb is to loan 50 percent of that figure which equates to a 2:1 safety factor or about $52,000 in this example. However, the percentage depends on a number of factors such as the number and quality of wells, diversity of properties, etc. In pure development financing, the safety factor depends on how confident the engineer is in correlating all of the zones from one well to the next. If an area is highly faulted, then a 3:1 safety factor could be required or a loan of only $35,000 would be made in our example. On the other hand, if seismic work and drilling indicate that a zone is continuous from one well to the next, and the porosity and permeability

of the pay zone rock are very similar, then 2.5 to 2.0 to 1 would probably be used. Generally, a safety factor of less than 2:1 will never be used on properties which are not producing and on which volumetric engineering is performed. On long life and high quality reserves where decline curves can be used, a safety factor of 1.5:1 can be used in some cases.

The examples presented above assume that all of the cash flow from the properties less operating costs is dedicated to the repayment of the debt. Should the borrower elect to take some of the cash flow for working capital purposes or any other reason, then the amount of the loan will be reduced and the banker will loan some percentage of the P.W. Future Revenue instead of the P.W. Future Net Revenue. However, the percentage of the P.W. Future Revenue must allow for operating costs plus the percentage released for other purposes. For example, operating costs of a particular property are 20 percent of the gross income and the borrower elects to put another 20 percent back into his company, a bank would then loan 60 percent of the present worth of the future revenue divided by the safety factor.

It should be emphasized that these techniques are not hard and fast rules and, in many cases, judgment enters into the picture. In certain situations, a financially strong operator may agree to pay the operating costs out of his own pocket, at which point the bank may elect to loan 100 percent of the present worth of the future revenue divided by the safety factor. The banker must also make a judgment as to the capability of the operator. If an operator is extremely good and can hold operating costs below what they usually are for an average operator, then the banker may elect to loan such an operator slightly more than that to which he might otherwise be entitled.

ONSHORE VERSUS OFFSHORE

These same basic techniques of lending apply both onshore and offshore, with the main difference being the use of proceeds of the development loan. The onshore loan proceeds will be used for additional development drilling, construction of a gathering system, etc. On the other hand, the proceeds of the offshore development loan will be used to buy a platform, usually the single most expensive item in offshore development, as well as the actual development drilling, pipeline, etc. In a recent large commercial bank loan to a major oil company, the bank was able to engineer two or three expendable wells on several tracts offshore Louisiana and loan enough money to purchase all of the platforms and complete all of the development drilling.

DOMESTIC VERSUS INTERNATIONAL

The type of lending just described is currently being performed on a world-wide basis with the basic difference in a domestic loan and an international loan being political risks and different tax and royalty structures for each country. Should a country take 40 percent of the income from production of concessions in its country before an oil company receives any money, and if the operating costs of a field on which a company wishes to borrow money are 20 percent of the gross income, then the formula for lending against this property would be 40 percent of the present worth of the future revenue divided by the safety factor. Naturally, some countries have such a high degree of political risk that lending is virtually prohibited no matter how lucrative the production may be.

RECOURSE VERSUS NON-RECOURSE

One important feature of production-type financing is that the actual loan can be structured as either recourse or non-recourse. A recourse loan simply means that the bank has the oil properties as collateral, and in the event that the properties do not provide cash flow sufficient to retire the debt, then the bank can force the borrower to repay from other cash flow or sale of assets if available; i.e. the loan is a general obligation of the borrower. A non-recourse loan, commonly referred to as a production payment, has as its only source of repayment the oil property out of which the production payment is carved and is not a general obligation of the oil company receiving the loan.

A production payment is actually an assignment of a specified amount of the future production from a property. It is essential that a production payment be dischargeable only out of production accruing to a property, and that the holder of the payment must look exclusively to the proceeds of the sale of production accruing to the payment for its satisfaction and liquidation. Furthermore, it must be of limited duration, less than the total productive

life of the property, and in most instances, be free and clear of all costs of operation and development. Production payment financing has many benefits to the borrower such as tax advantages and balance sheet treatment. This type of financing has been used more and more in recent years and particularly by the major oil companies.

Non-recourse financing can be used in both domestic and international finance. However, typically, an international non-recourse financing will be non-recourse in the sense that the loan must be repaid out of the proceeds from the sale of the collateral oil; but the oil company, and not the bank, usually bears the political risk of the country. In certain instances, the oil company can even have the political risk insured by a firm such as Lloyds of London. Should the company elect to do this and the financing is styled as a production payment, then the entire transaction would be considered non-recourse.

Certain areas of the world are extremely risky from a technical standpoint. A good example of this is the North Sea where the severe weather conditions make the technical risk of developing production very high. In areas such as this, it is very common to find what banks have termed limited recourse loans. Here the company actually guarantees the loan and assumes the full technical risk of putting the field into production. Once certain tests have been met, such as 200,000 BPD have been produced for 30 consecutive days, then the guaranty is dropped and the loan becomes true non-recourse.

LARGE OIL BANKS-SOURCES OF CAPITAL

Obviously, an independent oil company desiring to borrow a small amount of money will be able to get the loan if the credit of the company is good, adequate collateral is secured, etc. On the other hand, many transactions are so large that several banks work together in what is commonly referred to as a consortium and, in some cases, banks work jointly with insurance companies. Usually, the banks involved in large transactions are the larger banks in the country and only the banks that have oil departments. This means that about 15 to 20 banks do almost all of the major oil financing in the country. These banks are generally the major New York and East Coast banks, two or three large banks in Chicago, three or four on the West Coast and another four or five in Texas and the Southwest.

CONCLUSION

In conclusion, the author would like to point out that this paper was written to show some of the various complexities involved in petroleum financing. Production and development loans can be styled for onshore or offshore development in both the U.S. and overseas. Furthermore, the type of transaction can be either recourse or non-recourse and, in some instances, limited recourse. It must be emphasized that these various techniques and the actual styling of the loan are dependent upon the borrower having proven reserves and, additionally, upon the ability of the bank engineers and consultants to give a fair and accurate picture of the reserves.

BIBLIOGRAPHY

1. Bullion, J.W.: The ABC Deal: Is There A Reasonable Facsimile? Southwest Legal Foundation Meeting, Apr. 1970.
2. Matthews, Thomas K.: A Banker's Advice of Financing the Mineral Industry. *Mining Eng.*, Jan. 1969.
3. Pearson, A.J.: Some Guides to Proper Loan Selection in Petroleum Production Financing. *Jour. Petr. Tech.*, Jan. 1963.
4. Tanner, James C.: Strapped for Capital, Major Oil Firms Sell Interests in Production to Get Financing. *Wall Street Jour.*, Jan. 1976.