BANK FINANCING FOR INDEPENDENT OIL AND GAS PRODUCERS

AUTRY C. STEPHENS
The First National Bank of Midland, Texas

Banks have been making loans secured by oil and gas production since the 1920's. The nature of oil reservoirs was not understood very well at that time, and the early oil bankers were handicapped by a lack of reliable oil- and gas-reserve reports. The problem was compounded by wildly fluctuating oil prices. The development of instruments for obtaining bottomhole pressure and temperature, cores, and reservoir fluid samples and the development of the ancillary laboratory equipment for measuring the core and reservoir fluid properties paved the way for the devlopment of reservoir engineering. These developments occurred primarily in the early 1930's, and led to greatly improved reserve estimates. For the first 71 years after 1859 when oil was discovered in the United States, oil prices increased sharply during periods of shortage, but often plummeted when a major new field was discovered. The price of oil was $2.44 per barrel in 1920 but had declined to $1.10 per barrel in 1930. Then the East Texas Field was discovered, and the price of oil dropped to 10 cents per barrel. There was economic chaos, and this brought about "market demand" proration. There was surplus producing capacity in this country for the next 43 years, but the prorationing system led to reasonably stable oil prices. These two developments, the accurate estimation of oil reserves and stable oil prices, made widespread bank oil loans feasible. From a slow beginning in the 1920's, oil loans have grown to be a major part of many bank loan portfolios. Banks have recently experienced difficulties with loans in some industries, such as cattle feedlots and real estate developments. Bank oil loans, however, have performed extremely well, with the help of the large oil and gas price increases that have occurred since 1973. Oil loans are attractive to banks because of the presently favorable economic climate, and because of the normal self-liquidation of oil loans through monthly oil and gas sales.

An oil man selecting a bank, should seek association with a progressive, growing bank that has participated in the development of the community. In addition, the oil man seeking financing should become associated with a bank that has knowledge of the oil industry and that has demonstrated confidence in the oil business in both the up and down economic cycles that have affected the industry over the years. Some money-center banks have minimum oil loans of $100,000, and a few banks have much higher minimum loans. Banks with high minimum loans would not be of help to someone just getting started in the oil business. Some of the most profitable customers of First National Bank of Midland started with small loans. One customer borrowed $1,500 in 1959 to get started in the oil business. In 1976, First National Bank of Midland headed a consortium of banks that granted the company built by this customer a $35,000,000 line of credit. National banks are legally limited to lending a maximum of 10 percent of their capital and surplus to any one customer. A borrower should associate with a bank having a loan limit large enough to handle his anticipated credit needs. If a customer's business grows, and his loan requirements exceed his bank's loan limit, the bank can often sell participations in the loan to other banks. Both the borrower and the lead bank must, however, have good performance records before loan participations can be sold to other banks. By selling shares of a loan to other banks, a bank can handle loans many times the size of its legal loan

limit. Another prime factor that a potential borrower should consider is the bank's engineering staff. The more competent the staff, the better it will be able to handle difficult or unusual situations. A knowledgeable engineering staff with a good reputation also helps in selling loan participations to other banks.

Banks evaluate prospective borrowers to determine their suitability as customers. As the first step, a bank examines an applicant's financial statement. This is a listing, by various categories, of assets and liabilities. The financial statement also shows the latest available yearly income, expenses, and cash flow. Owners of small independent companies often prepare their own fianancial statements on standard forms supplied by banks, while owners of large independent companies usually have an audited statement prepared by an accounting firm. Banks also obtain credit reports from agencies such as Dun and Bradstreet, from suppliers, and from other banks. An applicant's knowledge of the oil business and his ability as an operator of oil properties is evaluated. Banks do not want to risk a foreclosure and possibly be forced into operating oil properties because of poor management by borrowers. If the borrower is a non-operating, working-interest owner or royalty owner, the bank wants to be satisfied that the properties are managed by a competent operator. The borrower should also be a good financial manager who maintains control of expenses, overhead, and cash flow by planning and budgeting. Banks try to attract customers with whom they can establish a long-term, mutually profitable business relationship. Ideally, the bank and borrower develop confidence in the ability and integrity of each other.

Banks expect borrowers to maintain their working deposit balances with the lending bank, and rarely opt to lend to a non-depositing customer. The interest rate banks charge borrowers depends not only on the supply and demand for money, but also the ratio of deposits to the loan amount. Banks thus charge the going interest rate, adjusted for deposit balances to net amount borrowed. Some banks classify loans by degree of risk, and charge interest accordingly. First National Bank of Midland, does not, however, attempt to offset risk by higher interest rates.

A bank which earns after-tax profits equal to 1 percent of the total assets (deposits plus capital and surplus) of the bank is considered successful. With this profit margin, banks cannot take any appreciable risks. The money that banks lend belongs to the depositors; therefore, the use of the money by banks is closely regulated. One requirement is that a depositor's money must be available for withdrawal on demand. To provide this liquidity, banks generally lend no more than 65 to 80 percent of their deposits, and these loans are for relatively short terms.

Loans to the oil industry are usually classified as either unsecured or secured by production. Unsecured loans are made on the general credit (the ability and willingness to repay a loan) of the borrower, without the taking of a mortagage on any assets. However, the bank may require restrictive loan agreements, negative pledges of assets, or guarantees to make sure the borrower's financial condition does not substantially deteriorate during the term of the loan. Unsecured loans usually make up only a small fraction of the borrower's net worth, and are for a term of one year or less.

Most loans to independents are secured by the general credit of the borrower plus a mortgage on oil and gas properties. A secured production-loan application, like an unsecured loan application, begins with a review of the borrower's financial statement and credit reports. Additionally, for an experienced oil banker, a cursory look at the type and location of the borrower's oil properties indicates whether the loan request is reasonble, and if a detailed evaluation is justified. Banks prefer to lend on high quality production with sufficient diversification, so that the bank is protected if any one group of properties fails to perform up to predictions.

The appraisal report provides the basis for establishing the collateral value of oil properties. Collateral value has been defined as the maximum loan amount that a property can be expected to service at the expected interest rate, without undue risk to the lender. Some banks have an engineering staff that performs the basic property evaluation. Many banks require an outside consultant's report, which is reviewed by the bank engineering staff. In either case, the report should be prepared by an experienced reservoir engineer of proven ability. If a consultant does the evaluation, the back-up data

that goes into the evaluation should be available for review by bank personnel. The report should be neither conservative or overly optimistic. Conservatism could cause a good loan to be passed up, while an overly optimistic report may cause a bank to make a bad loan. The borrower is expected to furnish the evaluation engineer information from his files. This information includes a legal description of the properties and information on working and net revenue interest, drill stem tests, completion reports, core analyses, gas contracts, operating agreements, oil and gas prices, operating expenses, bottom hole pressures, well tests, logs, geological maps, and the oil-, gas-, and water-production history.

Using data from the borrower's files, the bank's files, and information that is available from other sources, the evaluation engineer estimates remaining oil and gas reserves recoverable from the properties. A yearly forecast of oil and gas production is made, based on allowable and the capacity of the wells to produce. The yearly forecast should be for at least 5 years and preferably more. A cash-flow analysis is made based on currently realized oil and gas prices (and price increases allowed by regulatory authorities), operating expenses, production and ad valorem taxes, and anticipated capital investments. Income taxes are not usually considered in the evaluation report. There is currently considerable uncertainty about oil and gas prices. Some orders of the Federal Power Commission (FPC) are being challenged in the courts, and the courts could require that part of the monies collected under the challenged FPC orders be refunded. There is also a threat of FPC regulation of intrastate gas sales. Oil prices are controlled by the Federal Energy Administration and, indirectly, by the OPEC cartel. With pricing uncertainties, sometimes an additional cash flow should be run incorporating lower prices that could be imposed by the courts or regulatory agencies. The collateral value of the properties, however, is usually based on the cash flow based on currently realized prices. The sensitivity cash flow is used to see that the loan could eventually be repaid if the oil or gas prices were rolled back. A cash flow is run on each lease, and the individual-lease cash flows are incorporated into a composite cash flow. The cash flow is discounted at the prevailing interest rate to take into account the time value of money. An example of a composite cash flow is shown in Table 1. Reserves and cash flow are subtotaled by field as shown in Table 2, to determine the extent of reserve concentration in any one field. The majority of problem loans of banks have been in situations where the reserves are concentrated in one field, or in a new field with little producing history.

Banks lend primarily on proven developed reserves. Proven undeveloped, probably, and possible reserves are "plus factors" that are not directly considered in establishing the collateral value of the properties. The reserves in these categories should be listed separately. Most banks think in terms of lending 50 percent of future discounted cash flow. This percentage can be adjusted up or down by 10 or 15 percent, depending upon the type of reserves, the quality of the evaluation report, the proven undeveloped and probable reserves (plus factors), and the confidence the bank has in the borrower.

If the bank and borrower are satisfied with each other, and the collateral is sufficient to satisfy the lending criteria of the bank, the bank is then in a position to take a lien on the properties and make the loan. A lien is established by means of an executed mortgage, deed of trust, and assignment of runs. This instrument is filed in the counties in which the properties are located. Financing Statements (Uniform Commercial Code Form 1) are filed with the designated state authorities in those states that have adopted the Uniform Commerical Code. The borrower is required to furnish the bank a current title opinion to insure that the borrower's interest in the oil properties is as represented. The borrower also signs a note evidencing receipt of the loan. For large loans, there is often a loan agreement that sets out the terms and conditions of the loan. Banks commonly require the oil and gas purchaser to prepare transfer orders and to send the monthly oil and gas runs directly to the bank.

Banks typically require oil and gas loans to be repaid in 3 to 5 years. A usual arrangement provides for repayment of the loan from 80 percent of oil and gas sales, or a fixed monthly payment, whichever is greater. The remaining 20 percent is used by the

TABLE I—PEERLESS OIL & GAS COMPANY CASH FLOW OF PRODUCING OIL & GAS PROPERTIES EFFECTIVE JANUARY 1, 1977

YEAR	GROSS WELLS	NET OIL, BARRELS*	NET GAS MMCF **	REVENUE	OPER EXP & SEV TAXES	NET CASH FLOW	NET CASH FLOW Disc @ 8%	CUM. DISC. CASH FLOW
1977	741	1,093,828	6,280	$ 14,024,000	$ 3,542,000	$10,482,000	$10,072,000	$10,072,000
1978	737	921,639	4,827	11,847,000	3,401,000	8,446,000	7,494,000	17,566,000
1979	730	759,121	3,727	10,164,000	3,138,000	7,026,000	5,756,000	23,322,000
1980	721	705,998	3,088	9,469,000	3,021,000	6,448,000	4,877,000	28,199,000
1981	715	636,230	2,637	8,589,000	2,930,000	5,659,000	3,953,000	32,152,000
Remain		5,163,957	19,432	76,353,000	31,665,000	44,688,000	19,468,000	$51,620,000
		9,316,773	39,991	$130,446,000	$47,697,000	$82,749,000	$51,620,000	

* Average Oil Price: $11.10 per barrel

** Average Gas Price: 67.3 cents per MCF

borrower to pay operating expenses. The repayment schedule can be flexible, depending on the customer's needs and the collateral involved.

Prior to the large oil price increases of 1973, banks sometimes used the lending "rule of thumb" of 1 dollar per net barrel of reserves. This was equivalent to about one third of the posted oil price during those years of relative price stability. With the current three-tier oil price system ("old," "new" and "stripper"), this criteria is used less than in previous years. Banks sometimes base their loans on the "fair market value" (FMV) of a property, particularly when an acquisition is involved. The FMV is defined as the price at which a willing seller and a willing buyer, each having reasonable knowledge of the circumstances, will trade. On the theory that a borrower should have an equity investment in an acquisition, banks generally lend 75 to 85 percent of

TABLE 2—PEERLESS OIL & GAS COMPANY DISTRIBUTION OF RESERVES & CASH FLOW BY FIELD AS OF JANUARY 1, 1977

FIELD	LEASES	WELLS	NET EQUIVALENT BARRELS *	NET CASH FLOW	NCF DISC @ 8%	PERCENT OF DISC. NCF
Wasson & Other (San Andres)	192	311	6,612,000	$43,894,000	$26,393,000	51.1
Spraberry Trend	82	169	2,118,000	13,045,000	7,416,000	14.4
Pennsylvania (Devonian Sand Gas)	8	25	324,000	2,949,000	1,788,000	3.5
Carlsbad, So. (Morrow Gas)	5	5	185,000	1,816,000	1,542,000	3.0
Langlie Mattix	6	14	177,000	1,562,000	1,280,000	2.5
Block 16 (Devonian Gas)	1	1	228,000	1,796,000	1,168,000	2.6
Pleasant (Bluell)	1	22	149,000	1,192,000	814,000	1.6
Catrina SW (Olmos)	3	3	137,000	1,154,000	776,000	1.5
Miscellaneous Fields	80	191	1,822,000	15,341,000	10,443,000	20.1
	378	741	11,752,000	$82,749,000	$51,620,000	100.0

* Gas converted to equivalent barrels of oil based on average oil price of $11.10 per barrel

the FMV for the purchase of a property.

During the 1950's and 1960's, a substantial portion of oil lending involved production payment financing. A production payment has been defined as an economic interest created by grant, exception, or reservation which gives its owner the right to a stated percentage of the production free and clear of all expenses of operating the property until he has received a specified sum of money or specified quantities of oil or gas. There were various types of production payments, each of which could be used to minimize taxes under certain circumstances. The tax treatment of production payments was changed in 1969, and few loans of this type are currently being made. A similar type of loan called project financing (also known as "off balance sheet" financing) has come into widespread use during the last few years. Project financing loans are used for development of a specific project, and the bank looks only to the completed project for repayment of the loan. Due to this limited liability, banks charge higher interest rates for project financing. This type of loan is treated as a deferred credit on a company's balance sheet, and thus does not affect the debt ratios that are sensitive in some companies. This type of loan is also desirable in situations in which a loan agreement prevents additional conventional borrowing. Project financing has been used primarily by large, well established publicly owned companies to develop large projects such as North Slope or offshore oil fields. This type of loan is also used by smaller companies on occasion, for purposes such as financing of equipment on a lease development project.

The loans described in this paper are the most common types of bank loans used by independent oil and gas producers. There are other loan variations. Optimum bank financing is obtained when the borrower and bank develop mutual confidence in each other, and are able to work together to solve specific financing problems.

REFERENCES

1. Dodson, C.R.: Application of the Petroleum Engineer's Report to Financing, *Journal of Petroleum Technology* (February, 1967).
2. Godfrey, Gaines L.: Financing Major Development Programs, presented to the West Texas Geological Society's symposium Economics and the Petroleum Geologist (October, 1966).
3. Matthews, Thomas K.: Considerations in Financing the Development of Petroleum Resources, presented to the Society of Petroleum Engineers Fall Meeting (October, 1975).
4. McGonagill, Frank E.: Banking Requirement for Financing Oil Programs, Presented to the West Texas Geological Society symposium Economics and the Petroleum Geologist (October, 1966).
5. Pearson, A. J.: Some Guides to Proper Loan Selection in Petroleum Production Financing, *Journal of Petroleum Technology* (March, 1963).
6. Stewart, Fraizer M.: A Brief of Petroleum Industry Financing for Petroleum Engineers, Distinguished Lecture Program of the Society of Petroleum Engineers, 1968-69.