Chapter 57
Oil and Gas Leases

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The Landowner's Interest

Property

All property can be classified as either real or personal. Real property is land and that which is affixed or appurtenant to land. Personal property is every kind of property that is not real property. Oil and gas in place are considered to be a part of the land and are therefore a form of real property. When oil and gas are reduced to possession by being brought to the surface, they become personal property.

Ownership of property is the right to possess and use the property to the exclusion of others. Land cannot be without ownership. The rightful owners may be hard to determine, but ownership nevertheless exists. The extent of an owner's rights may vary. Absolute ownership is a superior status excluding participation by anyone else. The absolute owner is most frequently referred to as the fee owner and absolute ownership as fee ownership. There is a form of qualified ownership referring to a status establishing an equal right of participation in another person. For example, two parties are co-owners of a tract of land. Each party has certain rights to use and enjoy the land, but the rights of each party are qualified by the rights of the other party. Another form of ownership is limited ownership, which is a restricted right. The absolute owner who grants a 1-year grazing lease brings a form of limited ownership into being.

The absolute or fee owner is entitled to possession, which means the actual or physical occupancy of a thing. The party in possession of a thing is occasionally not the owner of that thing. Possession undoubtedly carries with it the intention to hold, but possession does not mean ownership.

The fee owner owns the surface of land and the minerals thereunder. The surface owner has no right to grant an oil and gas lease or mineral lease. However, the rights of mineral owners are often subject to the rights of surface owners. The mineral owner has the right to grant mineral leases. A royalty owner has a right to receive royalty or a share of production as obtained but has no right to grant mineral leases or receive bonuses or rentals.

Ownership of Hydrocarbons in Place. Various ideas and theories have been suggested as to the nature of ownership of oil and gas in the reservoir prior to extraction. Two principal ideas have evolved: the absolute-ownership and the nonownership theories. In the absolute-ownership theory, hydrocarbons are considered a part of the land and absolute ownership of the land is absolute ownership of the oil and gas in place. This theory divests the absolute owner of the hydrocarbons in place when there is drainage across property lines. The nonownership theory requires the acceptance of oil and gas as fugitive minerals. Absolute ownership of the land will therefore carry with it only the exclusive right to drill on the land in an attempt to reduce the oil and gas to possession. Absolute ownership of the oil and gas is not attained until the oil and gas are reduced to actual possession.

Regardless of which theory of ownership each of the various states adheres to in its statutes, the courts are in agreement that oil and gas in place are minerals and a part of the land; when they are reduced to possession, they become personal property; a landowner has the right to drill a well on the property in an attempt to reduce the oil and gas to possession, and without liability for drainage from adjacent lands; these privileges and responsibilities can be transferred to others.

Rule of Capture

The theories of ownership provide for the migratory nature of oil and gas under certain conditions. The impossibility of determining liability for drainage where

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landowners produce in a lawful manner from a well on their land is recognized. This freedom from liability for drainage is referred to as the "rule of capture." Since landowners cannot recover damages or enjoin the operator when their property is being drained by a well on adjacent lands, they must protect themselves as best they can. In short, they must drill, or have the lessee drill, a well on their own land as promptly as possible in order to prevent further drainage. This "offset drilling rule" is modified in these days of increased conservation legislation. Many states have statutes relating to well spacing, allocation of production, pooling, etc., which provide equitable relief for the landowners who are being drained by other means than the drilling of a well on their land, and which tend to prevent the drilling of unnecessary wells.

Mineral Severance

Severance of the minerals can occur in a number of ways. One of the most common ways is the conveyance of the land itself by a deed that provides for the reservation or exception of all or a part of the minerals to the grantor. Mineral severance is often accomplished by a deed conveying all or a part of the minerals themselves. A severance of oil and gas from the surface is recognized in all jurisdictions.

A lease or a conveyance using the term "minerals" will include oil and gas without otherwise describing them. A conveyance of a named mineral without the phrase "and other minerals" will convey only the mineral named. In some areas, "oil and gas" leases are obtained; in other areas, "oil, gas, and mineral" leases are obtained.

The owner of the mineral estate is entitled to the use of the surface as it may be necessary, subject to certain rights of the surface owner, for the exploration and recovery of the minerals. The foreclosure of a mortgage as to the surface estate is not effective as to the mineral estate, provided the execution of the mortgage is subsequent to the date of the mineral severance.

Adverse Possession. Adverse possession refers to the possession of real estate that is open, visible, continuous, and exclusive. The statutes of the various states establish the manner in which titles can be acquired by adverse possession. If such possession is continued for the time and in the manner prescribed by the statutes, the effect is to divest the owner of title and to vest in the adverse possessor a new title. If the minerals have not been severed, adverse possession of the surface is adverse possession of the minerals. Minerals severed from the surface prior to the commencement of adverse possession cannot be acquired by adverse possession. The years of occupancy, the construction and maintenance of fences, the construction and use of houses and outbuildings, the drilling of water wells, the grazing of cattle, the cutting of timber, the growing of crops, the payment of taxes, etc., are all important items to be considered by the title examiner in determining whether or not a basis exists for the establishment of an adverse title under the statutes of the state involved.

Partition. Partition is a division of real estate among co-owners whereby each acquires a separate tract. The effect of partition is to terminate the ownership of the undivided interests of the joint owners and to establish ownership in each co-owner as to the divided share. Partition is effected either voluntarily or involuntarily. The latter is called compulsory or judicial partition and consists of partition in kind or partition by sale and division of the proceeds. Partition in kind is, in general, the most equitable form of partition. Where such partition is impractical or unfair, partition by sale and division of the proceeds is resorted to.

A lessee who acquires an oil and gas lease from less than the entire group of cotenants is faced with certain problems, each of which has to be solved on its own merits under the applicable statutes. Partition of a tract subsequent to the granting of an oil and gas lease by the co-owners does not enlarge the obligations of the lessee. In such an instance, the lessee would not be required to drill an offset to prevent drainage in the event that the completed oil well is on one of the partitioned tracts.

Trespass. The landowner and his mineral lessee have several remedies for unauthorized entry and use of the surface and minerals. In determining the measure of damages for unauthorized intrusion it must first be determined whether the trespass was made in good faith or in bad faith. The measure of damages for unauthorized production in the case of good-faith trespassers is the value of the oil and gas at the surface less the reasonable costs of production; the measure of damages in the case of bad-faith trespassers is the value of the oil and gas at the surface.

Unauthorized penetration of the subsurface is a form of trespass. A lessee who commences a well on a tract of land and allows or causes the borehole to deviate from the vertical in such a manner so as to drill into the subsurface belonging to an owner who has not leased to the lessee is liable for trespass. In questions involving this type of trespass, a court order may be obtained for a well survey to determine whether or not a trespass has occurred. Should such a well produce, the measure of damages would be the value of the hydrocarbons removed. If the well results in a dry hole, the trespasser is liable to the landowner for damages for the destruction of the mineral value of the land.

Fee or absolute ownership carries with it the right of absolute control, including the right to grant oil and gas leases, to conduct exploratory operations on the land, to authorize others to so use the premises, etc. It therefore follows that a party who conducts exploratory operations without permission violates the rights of the landowner and is accordingly liable. In this type of trespass, damages may be recovered from the standpoint that such operation may have reduced or removed the marketability of an oil and gas lease on the land or reduced the leasing value of the land itself.

Correlative Rights. Despite the rule of capture, there has been much said and written, and some legislation, regarding correlative rights. Property owners overlying a common source of supply are restricted in their right to remove hydrocarbons by their duties to adjoining landowners. They are obligated not to injure the reservoir or dissipate the reservoir energy, and they cannot remove a disproportionate share of the hydrocarbons. In general,

owners may not use their land in such a manner as to injure the property of others. The principle of correlative rights is enforced by law in those states that have enacted comprehensive conservation legislation.

The Oil and Gas Lease

Background

A large number of printed lease forms are in use in the oil industry. The evolution of the oil-and-gas-lease contract has been a slow process. Present-day forms are quite lengthy when compared with the contracts made in the earlier years of the oil industry. The many refinements made since then have been based on the hard lessons learned through experience and on the many court decisions rendered as a result of the inevitable controversies which arose as the industry grew.

The courts have held, keeping in mind the fugitive nature of oil and gas, that the primary purpose of the oil and gas lease is development. Should the oil and gas lease not contain an express provision in this regard, the law will imply an obligation on the part of the lessee to explore and develop the leased premises.

An oil and gas lease is a conveyance or an interest or right. It is also a contract between the lessor and the lessee. Since an oil and gas lease conveys an interest in real estate, it must be in writing in accordance with the statute of frauds. A lease is sufficient if the names of the parties, the description of the property involved, and the terms of the agreement are set forth. It is not necessary that the lessee sign the lease to make it legally effective. Witnesses are not required in order to make the instrument effective between the parties. An acknowledgment is required only in connection with the recording of the instrument and does not affect the validity of the instrument between parties. Recording the lease is not necessary to the validity of the instrument between the parties, but is required to afford protection against bona fide purchasers.

The Lessor

A party owning a mineral interest and having the personal capacity to contract has the capacity to execute a valid oil and gas lease. Oil and gas leases from minors and insane persons are usually executed by guardians of such persons under the direction and approval of the court. The disabilities of minors may be removed in some states by judicial proceedings and leases obtained directly from such persons. Leases executed by minors are voidable at their election upon reaching majority. A lease executed by a person subsequently adjudged insane is voidable.

Landowners often leave a will devising certain real property to their children subject to a life estate or usufruct in the surviving widow, who is called the life tenant or usufructuary. The children are called the remaindermen or naked owners. Neither the life tenant nor the remainderman has the right to lease without the consent of the other. Both parties must join in the execution of an oil and gas lease for it to be valid. It is important that the rights of the lessors as to the bonus, delay rentals, and royalty payments be clearly set forth in the lease. Generally, the bonus and rental payments are payable to the life tenant, and royalty is payable to the remainderman.

A landowner can execute an oil and gas lease on lands that are subject to the qualified rights of others provided the lease does not interfere with such prior rights. The most common example is the landowner who grants a surface lease for grazing purposes and then at a subsequent date executes an oil and gas lease. The lessee in the oil and gas lease cannot be prevented from entering on the surface to exercise the rights granted in the lease, but at the same time the lessee is responsible to the tenant for damages to the extent that the tenant's rights are interfered with. A tenant's consent agreement is usually obtained prior to operations of any kind.

An administrator is one who is vested with the right of administration of an estate and is appointed by the court. An executor is a person appointed by a testator, or the party making a will, to execute his will. A trustee is a person holding property in trust for another party. Executors, administrators, and trustees have authority to execute oil and gas leases provided such specific authority is given by will, by the court, or by statutory provision. A power of attorney is an instrument authorizing one to act as the attorney or agent of the person granting it, and terminates upon the death of the grantor.

In the case of married persons, the husband may, in general, execute a lease without the joinder of his wife. Homestead statutes usually require that all instruments creating encumbrances upon the homestead be signed by both parties. The wife, in general, can execute a lease on her separate property. In community-property states the husband may or may not have the right to grant a lease on the community estate without joinder by his wife; however, most lessees will insist upon the joinder of the wife.

The law differs among the states as to whether or not a co-owner can execute a lease without the consent of the other cotenant. In most of the states, such a lease would be effective only as to the interest of the executing cotenant. Two or more lessees, each having leases on undivided interests in the same tract, are cotenants. Each is entitled to drill on any part of the leased premises but, if successful, must account to the other cotenant for his proportionate share of the production, less the cost of production.

Consideration, Date, Description, and Delivery

A valid oil and gas lease requires a consideration, a nominal cash payment or other consideration generally being sufficient. An undated lease takes effect upon execution and delivery. An exact description of the land to be leased is not necessary, provided the land can be identified with reasonable certainty. Delivery and acceptance of an oil and gas lease are required as with other conveyances: the intent of the lessor to make the instrument legally effective must be apparent.

The Granting Clause. This clause in an oil and gas lease is usually the first paragraph in the lease and is one of the most important paragraphs in the entire contract. The rights of the lessee are very broadly set forth. The remaining provisions of the contract modify or enlarge upon the provisions of this paragraph.

The granting of the lease is for the purpose of the development of the mineral estate. Accordingly, the lessee must have those exclusive rights that are necessary

to carry out the basic purpose of the lease. This includes the right to build pits and erect tanks and other equipment pertinent to the lessee's operations. The lessee has the right to construct, maintain, and use roads, pipelines, and/or canals on the leased premises. The lessee is not liable for operations on the leased premises unless the surface is used excessively, the operations are negligent, or any express provisions in the lease are violated. The lessee is required to restore the premises to their original condition, insofar as is practicable, when required by the lease. The lessee has the right to conduct exploratory operations on the leased premises and to conduct secondary-recovery operations and to dispose of salt water by reinjection into suitable formations.

The landowner is entitled to the use of the surface, less that required by the lessee, who has the responsibility of protecting this remaining surface for the benefit of the lessor. The lessee must exercise complete control over the surface storage of liquids and is responsible for damages in the event of leakage and injury to the adjoining surface.

The Habendum Clause. A simple form of this clause provides that "this lease shall be for a term of blank years from the date hereof, called primary term, and so long thereafter as oil or gas is produced." This clause fixes the ultimate duration of the lessee's interest. The lease may be terminated sooner, for example, by the failure of the lessee to pay delay rentals. The primary term will limit the life of the lease prior to the establishment of production from the leased premises. The primary term is one of the items that must be negotiated at the time of the purchase. The term most commonly used is either 3 or 5 years. It is usually difficult to acquire leases with terms longer than 5 years. In very active areas primary terms of 3 years and less are usual.

For the lease to be extended beyond its primary term, production must occur, subject to certain exceptions to be discussed subsequently. The fact that oil or gas may have been discovered on the leased premises will not in itself keep the lease in force unless specific provisions are made to the contrary. This is especially applicable to oil. In the case of gas, provision is frequently made in the lease to extend the lease past its primary term in the event the lessee is not able to market the gas for lack of transmission lines, lack of a gas market, etc. When such a provision appears in a lease, it is referred to as a shut-in gas clause. It usually provides for the payment of a sum of money on an annual basis in an amount that may be as high as the lessor would ordinarily receive as delay rentals.

The word "produced" in the habendum clause has been held to mean "produced in paying quantities." What constitutes production in paying quantities has been the subject of much dispute. In general, if a lease is past its primary term, and enough production is being obtained from the lease so that a profit is made, however small, in excess of the cost of operation, disregarding the drilling and completing costs, such lease is held by production in paying quantities.

While a lease may generally be maintained in force past its primary term only by production, there are other ways provided for in the lease to maintain the lease past the primary term. A lease can often be kept in force, in the absence of production, through the date of expiration and after the primary term by the lessee's operations, which are conducted in a diligent manner looking toward the discovery and production of oil and gas. Most leases provide that the lease may be kept in force for an indefinite period of time in this manner provided that not more than 60 or perhaps 90 days elapse between the cessation of any such operations and the commencement of additional operations. Such additional operations might include reworking operations on any abandoned producer or deepening operations on a dry hole or possibly drilling operations for a new well at another location on the leased premises.

Drilling and Delay Rental Clause. A simplified drilling and delay rental clause might say that "the lease shall terminate on blank date unless on or before such date the lessee either commences operations for the drilling of a well on said land or pays to the lessor a rental of blank dollars per acre for all or that part of the land which lessee elects to continue to hold, which payment shall maintain lessee's rights in effect as to such land without drilling operations for 1 year from the above date." The lessee may continue to maintain such rights without drilling operations for successive 12-months periods by making similar payments to the lessor.

Early oil and gas leases usually provided for the commencement of a well. Changes were gradually made in the lease to allow the lessee to defer drilling operations by the payment of an annual sum called the delay rental. This alternative obligation to drill or pay a delay rental, when considered with the right of the lessee to surrender the lease at any time, is called an "or clause." Further changes were made. Wording was added to the lease to provide that, if no well was commenced before a certain time, usually 1 year from the date of the lease, the lease would terminate unless the lessee paid a delay rental. This further revised wording is known as the "unless clause."

Regardless of which clause is used, the lessee has the right either to commence a well within a specified time, pay a delay rental in lieu of commencing operations, or terminate the lease by the nonpayment of delay rentals. Almost all leases in use today are of the "unless" type.

Since the lessee is under no obligation either to pay delay rentals or commence operations for the drilling of a well, the practice has been to pay a substantial consideration, called the bonus, for the granting of the lease. The bonus may be any agreed-upon sum but is usually large when compared with the delay rental. The bonus is sufficient to keep the lease in force and effect until such time, usually 1 year, as a delay rental may be provided for. The bonus is subject to negotiation at the time of the purchase of the lease. The bonus may run from $1 to many thousands of dollars per acre, depending on the size of the tract, the royalty, anticipated oil and gas reserves, the quality and quantity of geological and geophysical data available, etc.

Most leases provide for the commencement of "operations." The commencement of actual drilling is not necessary unless specifically provided for. Operations incident to the actual drilling are sufficient and include building roads, digging pits, building the derrick, etc. Such operations must be continuous, diligent, and in good faith.

The effect of the drilling of a dry hole during the primary term by the lessee may vary from one lease form to another. Most leases provide that, if a dry hole is completed on the leased premises within the primary term, the lease may be kept in force by the commencement of additional operations or by resuming the payment of delay rentals as provided for in the lease.

In the "unless" type of lease, there is no obligation to pay the delay rental and there is no liability for failure to pay. Unless otherwise specifically provided for in the lease, the entire amount of the delay rental must be paid. Most leases permit the lessee to surrender a portion of the leased premises and then pay delay rentals on the balance. Delay rentals in most states are not a matter for negotiation as is the bonus and are usually in the amount of $1/acre/yr. Such is not the case in some areas, as in southern Louisiana. Here the delay rental is just as important as is the bonus as an item to be negotiated upon; it is the practice for rentals to be in an amount equal to at least one-third to one-half of the bonus consideration on a per-acre basis.

The lease provides that rentals may be made on or before the specified date, payable to the lessor or to the lessor's credit in a bank designated by the lessor. Most rentals are tendered by the lessee 3 to 6 weeks in advance of the due date to provide time for the lessee to receive a receipt from the lessor's depository bank evidencing deposit of the rentals to the lessor's credit. The lease also contains a proportionate-reduction clause or lesser-interest clause, which allows the lessee to reduce the amount of the delay rentals and royalty payments where the lessor does not own a full interest.

Royalty Clause. A simple royalty clause might provide that the royalties to be paid by the lessee are (1) on oil and liquid hydrocarbons, one-eighth of that produced and saved from the land; (2) on gas, one-eighth of the market value at the well of the gas used by the lessee in operations not connected with the land leased, the royalty on gas sold by the lessee to be one-eighth of the amount realized at the well from such sales; (3) one-eighth of the market value at the mouth of the well of gas used by the lessee in manufacturing gasoline.

The most common royalty is one-eighth, experience having shown this to be the most equitable fraction to be paid to the lessor in relatively unexplored areas. However, in known trends it is often difficult to purchase leases providing for a royalty of only one-eighth. Here again, the royalty is an item that must be negotiated in much the same manner as the bonus or delay rental. Royalties of one-sixth and more are now quite common in some areas.

The royalty interest created at the execution of the lease is payable to the lessor in the event of production. It does not refer to any additional royalties that may be created by the lessee out of the working interest and that are called overriding royalties. It does not refer to an advance royalty that can be deducted from any subsequently accruing royalties. It does not refer to a minimum royalty, which is a sum the lessee agrees to pay in the event of production regardless of whether or not it is equivalent to the lessor's share of gross production.

A failure to pay royalties does not in itself effect automatic termination of the lease. Failure to pay royalties within a reasonable time could result in a forfeiture of the lease in a court action. Some delay, perhaps several months, in disbursing royalty is to be expected; title must be approved by the oil or gas purchaser and division orders circulated among those who will share in the production.

Oil royalties are payable to the lessor either in oil or to the lessor's credit in the pipeline, which is called payment in kind, or by payment in money based on the value of the royalty oil. Execution of a division order waives the lessor's right to receive royalty in kind. Royalty is computed as a share of the gross and not as a share of the net production, which means the royalty is not burdened with any production costs. However, the lessor is required to pay his proportionate share of the cost of transportation and gross production taxes.

Condensate or distillate is a liquid produced along with gas, but which originally was in the vapor phase in the reservoir. Casinghead gas is gas produced from an oil well. A gas well produces gas as distinguished from casinghead gas and may be defined in terms of gas/oil ratio by various regulatory bodies. The royalty payable on oil is also the royalty payable on condensate and other liquid hydrocarbons when separated on the leased premises. The royalties payable on gas are always payable in money and never in kind, and are subject to transportation costs. Royalty on gas is payable only on that gas which is sold or used off the leased premises. Royalty is not payable to the lessor on gas used by the lessee as a means of lifting the oil to the surface or that is injected into the reservoir for pressure-maintenance purposes.

A gasoline plant may be justified in areas where there are sufficient reserves of rich gas. A lessee will often enter into a contract with a processing plant whereby his gas wells are produced full-well stream to the plant for extraction of liquid hydrocarbons. The independently owned plant will retain a percentage of the value of the liquid hydrocarbons removed as a processing charge and credit the lessee with the value of the balance of the separated liquids as well as with all the residue gas. The lessee then disburses royalty to the lessor in accordance with the terms of the lease. If the lessee owns an interest in the plant, the lessee may be required to pay royalty on extracted liquids and residue gas less only the actual operating costs of the plant depending upon the terms of the lease.

The Pooling Clause. The pooling clause provides that the lessee, at its option, is given the right and power to pool or combine the land or mineral interest covered by the lease, or any portion thereof, with other land, lease or leases, and mineral interests in the immediate vicinity thereof, when in the lessee's judgment it is necessary or advisable to do so in order to develop or operate the leased premises properly to promote the conservation of oil and/or gas. The clause further states that "any unit or pool created for the production of oil shall not exceed 40 acres and that any unit for the production of gas shall not exceed blank acres." The number of acres inserted in the event of a gas well will vary from 160 to 640, depending on local practice.

The term "pooling" refers to the combining of small tracts for the purpose of forming a unit on which a well may be drilled. A lease form should be used that contains

an appropriate pooling clause. It may not be quite so important to obtain this right in certain areas where only oil is produced or in those states that provide for forced pooling and integration. The pooling right is related to development, and the owner of the working interest has the responsibility for such development.

The lessee must act in good faith in exercising the pooling privileges granted in the lease. When a lessee declares a unit and places the unit declaration of record in accordance with the lease, it is presumably done in the interest of proper development and conservation. Caution should be exercised in planning a unit to be declared so the unit will be in reasonable conformance to the subsurface and seismic data available. A lessee who declares a unit of an unusual shape for the obvious purpose of holding a lease past its expiration date, or that includes acreage most likely not productive, or that tends to disregard available geological control is probably not acting in good faith. Such a declared unit may be vulnerable to attack by the lessors.

When a lease contains a pooling clause, appropriate changes will appear elsewhere in the lease. The habendum clause may read, "this lease shall be for a term of blank years from the date hereof, called primary term, and so long thereafter as oil or gas is produced either on this land or on acreage pooled therewith, or with any part thereof." Operations for the drilling of a well or production from a well on a unit constitute operations or production from each of the tracts pooled.

Miscellaneous Clauses. Many miscellaneous clauses are found in leases for the benefit of the lessor or the lessee. The lessee is restricted in locating a well on the leased premises to the extent that no well may be drilled nearer than 200 ft to any house or barn. The lessee is required to lay pipelines at such a depth as not to interfere with plowing and cultivating operations. The lessee may be required to pay for all damages in connection with its operations on the land, although the damages are often restricted to timber and growing crops.

A paragraph is often found in leases that has as its purpose the inclusion of small strips of adjacent land owned by the lessor but not specifically described in the lease. The lessor usually intends to include such small parcels of land in the lease, but for various reasons a description of the strip may have been omitted. This paragraph is called the "Mother Hubbard clause." It is not intended that large tracts of land be subject to this clause but only strips or parcels of perhaps several acres in size. The lessee is given the right to use without cost gas, oil, and water produced on the leased premises for lessee's operations thereon. The lessee is given the right to remove machinery and fixtures from the leased premises, including casing, within a reasonable period of time after the lease has terminated.

The lease provides that the interests of the parties are assignable in whole or in part. No change in ownership of the land imposes any additional burden on the lessee until the lessee has been furnished with a certified copy of the recorded instrument evidencing the transfer. Since portions of many leases are eventually assigned, a clause is inserted to protect the lessee in the event of default in rental payments by the lessee's partial assignee. It provides that in the event of partial assignment a default in the rental payment of the assignee shall not operate to defeat or affect the lease insofar as it covers that portion retained by the lessee.

The "warranty clause" provides that the lessor warrants and agrees to defend the title the land leased. If the covenant of general warranty is breached, the lessee can recover the consideration paid for the lease with interest and the expenses incurred in defending possession. The lessee is given the right to redeem for the lessor, by payment, any mortgages, taxes, or other liens on the leased premises and to apply to the repayment of the lessee any rentals and/or royalties accruing under the lease.

The Implied Covenant. It is important to keep in mind that the underlying purpose of the lease is to secure production. Most leases have very little to say about the manner in which wells will be drilled, or even if a well will be drilled at all. Little is ever said about the well density or the intervals at which development wells will be drilled. The lack of specific agreement between the lessor and lessee in these regards is intentional. Too much is unknown about the nature and characteristics of any reservoir present. The obligations of the lessee are the obligations of an ordinarily prudent operator under the same or similar circumstances, considering the lessor's interest as well as his own. The obligation to develop the leased premises as would a prudent operator arises only after discovery of oil or gas and continues for the life of the lease.

Assignments by the Landowner

Right to Transfer. Fee owners can dispose of their land in any way they see fit, either in whole or in part. They can convey the surface and reserve the minerals, or vice versa. They can sell all or a divided part or an undivided interest in the minerals. They can sell all or a part of their interest in the proceeds from the minerals. They can create a subordinate interest and transfer it to another party, as is done when a lease is granted.

Mineral Deeds and Interests. A mineral deed transfers the minerals or the right to obtain them as they exist in place. The owner of minerals has the right to go on the land, conduct exploratory operations, and produce oil and gas. If the minerals are subject to a lease at the time of the mineral conveyance, the mineral grantee may not exercise these rights until the lease terminates. The mineral owner has the right to execute a lease and to receive the bonus money therefrom. The mineral owner has the right to receive rentals and to share in the royalties if and when payable under any lease. Mineral interests are most often created by unqualified grants or reservations. However, many mineral conveyances are for a specified term of years, or for a specified term and so long thereafter as oil or gas is produced.

Royalty Deeds and Interests. Royalty is a share in production and, when applied to a lease, refers to the share of the oil and gas that is received by the lessor from production under the lease. This share is usually one-eighth of the whole, although it may be any other fraction agreed upon. Royalty also refers to an interest that is created by grant or reservation either before or after the

execution of a lease. The right to royalty is contingent on production and carries with it no right or interest in the minerals. The owner of a royalty interest receives no bonus and no delay rental payments. A royalty interest is an expense-free interest in the gross production and not in the net production. Royalties as well as minerals may be conveyed in fee or for a specified term of years, or for a specified term and as long thereafter as oil or gas is produced.

When referring to a conveyed royalty interest, it is customary to refer to the number of royalty acres conveyed, as well as to the fractional interest. If a landowner sold half of his one-eighth royalty in a tract of 80 acres, the royalty grantee is said to have purchased 40 royalty acres. If a royalty buyer purchased one-eighth of the same landowner's one-eighth royalty, the royalty purchaser would be entitled to one-sixty-fourth of all production and is said to own 10 royalty acres.

Assignments by the Lessee

Right to Transfer. The lessee is the owner of the lease, and the interest is usually seven-eighths of the production but may often be much less, depending on the amount of royalty. This interest is referred to as the working interest. A lessee may transfer his entire interest either in whole or part, or an undivided portion in the lease or a part thereof. The lessee has the right to convey overriding royalties, production payments, undivided interests, or an entire interest in a portion of the leased premises.

Assignments and Subleases. An assignment is a transfer of the assignor's entire interest in a lease either in its entirety or in a portion thereof. A sublease is a partial transfer in that the sublessor retains an interest in the lease in so far as it affects the property subleased. An instrument conveying the working interest but providing for the reservation of an overriding royalty is a sublease rather than an assignment.

Obligations undertaken by the lessee in the lease are called covenants. A contractual relationship exists between the lessor and the lessee, and there is said to be a privity of contract between the parties. The lessee has the right to assign the leasehold estate to a third party. The covenants contained in the lease are assumed by the third party and are said to be covenants running with the land. In the event of a true assignment, the lessee is usually relieved of his obligations to the lessor. In the event of a sublease, the lessee remains liable to the lessor because of the privity of contract between them.

Overriding Royalty. An overriding royalty interest is an interest carved out of the working interest and is not burdened with the cost of development or production. It is therefore a kind of royalty interest. An overriding royalty is usually created in a sublease, but may be created by grant. It in no way affects the royalty interest that is payable to the lessor. The overriding royalty owner generally cannot require the lessee to maintain the lease in force, to drill a well, or to develop the property, and shares in oil and gas only when, as, and if produced.

Production Payments. Oil payments, perhaps more correctly referred to as production payments, are related to overriding royalties in that they are usually carved out of the working interest and bear no cost of production. The overriding royalty differs from the production payment in that the former continues for the life of the lease and the latter terminates upon the payment of a specified sum of money from a stipulated percentage or fraction of the working interest. Production payments can be of practically any size and can be made payable out of any fraction or percentage of the working interest.

The production payment is occasionally used in negotiating a lease. A company may be willing to spend not more than $100/acre as bonus for a lease but at the same time be willing to provide for a production payment of perhaps $200/acre payable out of one-sixteenth of seven-eighths. A landowner can occasionally be shown the advantages of a production payment, with the result that a deal is made instead of lost.

The use of the production payment in the large-scale purchase of producing properties has become common. The task of how to purchase a producing property for a minimum cash outlay by the grantee with the grantor receiving the entire purchase price in cash and with the gain taxed at capital gains rates is often accomplished by an "ABC" transaction. A is the seller and the owner of the property. B is the purchaser of the property. C is the purchaser of the production payment and either has or can get the major part of the required cash. To illustrate, A owns a producing property that will sell for $1,000,000. B wants to buy the property but has only $200,000 for the purchase. A will convey the property to B for $200,000, retaining a production payment of $800,000 plus interest payable out of 85% of the production. A will then sell the production payment to C for $800,000 cash. All parties to the transaction receive the maximum tax benefits allowed.

Unit Operations

Background

In recent years the objective has been to obtain the maximum ultimate recovery of oil and gas in place. In the early days of the industry a great number of unnecessary wells were drilled; only a fraction would have been required to obtain maximum efficient withdrawal. In time, limits were placed on the amount of production; well-spacing regulations came into existence; the establishment of drilling units and the pooling of small tracts of land followed. The advantages of cooperative development on a small scale became even more apparent when considered on the basis of the entire reservoir. Unit operation of a reservoir, whether for cooperative development, pressure maintenance, or secondary recovery, requires a knowledge of the hydrocarbons in place and an acceptance of the correlative rights of the owners; a fair distribution of the proceeds is best accomplished by contractual agreements among the royalty and working-interest owners.

The unit operation of an oil and gas reservoir is to be distinguished from pooling, which is the combination of small tracts to form a drilling unit or comply with spacing regulations. The term "unitization" is usually used interchangeably with unit operations. Unitization

therefore refers to the operation of all or a substantial part of the reservoir by a unit operator in accordance with the terms of a unitization contract. Unit operations may include two categories, depending on the manner in which they come into existence.

Voluntary Unit Operations. When the owners of the interests in a reservoir agree that all or a major portion of the reservoir is to be operated as a single unit regardless of property or lease lines, a voluntary unit operation comes into existence. The preparation of a unitization agreement acceptable to all the parties is a major undertaking. Two contracts are entered into, an operator's contract and a royalty owner's contract, sometimes called the unit contract. Many problems are involved regarding the operation of the reservoir and the drilling of additional wells that are best handled in a separate contract among the owners of the working interest. The royalty-unitization agreement must expressly provide for the consolidation of the interests of the lessors. Without such authority, lessors could demand that their tract be drilled to prevent drainage or be developed separately. The working out of a voluntary-unitization agreement requires a thorough knowledge of the conservation statutes. The voluntary-unitization agreement may provide that the contract will not become effective until approved by the appropriate regulatory body.

Compulsory Unit Operations. Compulsory unit operations come into being by order of a regulatory body in accordance with specific statutes. Early statutes provided that, if a certain percentage of the lessees in an area to be unitized petitioned the regulatory body to bestow jurisdiction to issue appropriate orders, it would do so. The laws of the states vary as to the percentage of ownership required. There must first be agreement among a majority of the lessees and royalty owners concerned regarding a unit plan. Here again a great deal of work and time are required. Numerous conferences are held among the working-interest owners and studies are made by various committees. Upon finalization of the plan, signatures are obtained from the working-interest and royalty-interest owners. A petition to the regulatory body is made and a hearing is held after proper notice has been given to all the interested parties. Upon issuance of the appropriate orders, accounting adjustments are made among the working-interest owners and the appointed unit operator assumes operations of the area.

Getting the Well Drilled

Lease Purchases. Oil and gas leases are purchased for a variety of reasons. Lease purchases are often of a trend nature, with no drillable prospect having been shown to exist. Such lease purchases could be in a sedimentary basin considered likely to contain accumulation of hydrocarbons, or as extensions to discovery wells. The owners of the leases might then plan to conduct seismic operations in an effort to isolate and define likely structures on large lease blocks or spreads of acreage. However, the owner of a geological idea or unleased prospect may have sufficient subsurface and/or seismic data to justify the drilling of a well. In this instance, leases are acquired for the very definite purpose of drilling in the immediate future. Under such considerations, the amount of the rentals or the extent of the primary term becomes of secondary importance in negotiating the leases. A landman or lease broker will then be employed to review the records of the clerk of court to determine surface and mineral ownerships of all the tracts of land in the prospect including county roads, state and federal highways, rivers, school lands, canals, etc. Mineral leases will then be negotiated and acquired.

Capital to Drill the Well. Major oil companies have no real problem in raising the necessary capital to drill wells. Such funds are, to a large extent, available from earnings, and to a lesser extent, from borrowings. However, independents have been historically short of cash to drill wells. An "independent" is a small corporation or a partnership or perhaps an individual engaged in oil and gas exploration only. That is, an independent is not engaged in the transportation and refining of petroleum or in the marketing of petroleum products. Independents drill approximately 85% of all wells drilled in the U.S. and there are thousands of small companies and individuals engaged full time in oil and gas exploration.

In recent years, the limited partnership has been the primary source of venture capital for the independent. Investors buy units of a drilling fund and become limited partners. An experienced and successful independent becomes the general partner. Another significant source of venture capital for drilling wells has been the utility companies and end-users, such as the chemical industry. A typical independent may spend $5 to $15 million a year in drilling money, almost none of which belongs to the independent. The capital comes from investors and from persons who buy into drilling deals. Regardless of the source of the capital, the independent invariably promotes or lays off a part of his deal, usually on a third for a quarter basis. This means that the party being promoted or who buys into the deal will pay one-third of the cost of drilling the well for a one-quarter interest in the well. Variations of this type of promotion are endless; but by and large this type of promotion is standard between independents and investors as well.

Sources of Prospects. Major oil companies maintain large staffs of geologists, seismologists, paleontologists, and other supporting personnel engaged in development and exploration efforts. Major oil companies rarely participate in drilling on prospects not generated by them. On the other hand, most independents do not generate their own prospects but must buy them from geologists and others who generate geological prospects. The geologists, landmen, and others who can generate prospects and buy leases on them are then in a position, to a limited extent, to promote their prospect in dealing with an independent. Invariably, a nominal overriding royalty can be retained on the leases and occasionally a carried working interest to casing point. In this case it is difficult to obtain a carried working interest of as much as one-quarter because the independent taking the deal must

itself plan on laying off perhaps half of the deal and there must be some room left in the structuring of the deal to permit all concerned to realize some economic benefit.

Abstracts and Title Examination. Abstracts will be ordered on at least the proposed drillsite and offsetting tracts, and perhaps even on the entire prospect. The abstract will usually contain exact copies of all instruments of public record pertinent to the land from patent to date. Qualified oil and gas attorneys will review the abstracts and render a title opinion. There are usually numerous title deficiencies, most of which can be met by appropriate curative effort by the landman or title man. Supplemental title opinions will be obtained after the curative materials have been procured. Rarely can every requirement be met and the lessee may have to elect to waive such unmet remaining requirements and assume the business risk of proceeding with the drilling of the well.

Full-Interest Wells. When a lessee controls the entire acreage on all of the prospects it is fortunate indeed. The well can be drilled as the lessee pleases, being restricted only by appropriate regulations. Should the well result in being a producer the lessee will have control of the entire reservoir, assuming the lessee has more or less correctly anticipated the extent of the reservoir in the lease purchases. However, this situation is rarely found. Considerable work has yet to be done when a lessee is planning to drill a well and finds that all of the prospective acreage is not controlled.

Joint-Operating Agreements. Generally a lessee thinking of drilling a well will have at least some leases on the prospect. The remaining leases will be owned by one or more competitors, presumably people who are also interested in drilling wells and establishing production. Since the owners of the leases covering the prospect will all benefit in the event of production, it would seem equitable that each pay a proportionate part of a well or make a suitable contribution to the well.

However, it is not often that two or more lessees have the same data, or interpret the data in the same way. A lessee may elect to farm out its acreage, do nothing, or join in the drilling of a well. The other lessees will be contacted in an attempt to determine their interest in getting a well drilled. The other lessees may not have sufficient information to justify their joining in the drilling of a well. The party desiring to drill the well may find it desirable to make any information available to the adjacent lessees. This seismic or other control may represent a sizable investment, and the other lessees may be willing to pay for the data, exchange similar data of their own in another area, or negotiate almost any kind of agreement with the owner of the control. If all the lessees are eventually agreed that a joint well should be drilled, they will define a contract area that will be jointly owned. A joint-operating agreement will be entered into and the interests of the parties to the agreement determined on the basis of the surface acreage owned by each as compared with the total acres in the contract area. The joint-operating agreement will stipulate the interests of the participating parties, specify the operator, limit certain expenditures, establish liabilities, provide for the drilling of the first and subsequent wells, provide for nonconsent operations, etc. Certain operating costs are agreed on and an accounting procedure is attached to the joint-operating agreement.

The joint-operating agreement is a very useful tool in exploratory operations, particularly where the tracts of land are small or where it may be desirable to share the risk of an expensive exploratory well. Contract areas can be of practically any size but for exploratory purposes usually run from about 640 to several thousand acres in size. The joint-operating agreement is also used occasionally in development drilling. It finds frequent application in a unit or pool ordered by a regulatory body after a well has been completed as a producer.

Cash Contributions. A lessee may find it necessary to drill a well on a reduced-acreage basis with cash support from the adjacent lessees who might not be willing to farm out or enter into a joint operation. The most common type of cash contribution is the dry-hole contribution. It is usually a sum of money per foot drilled, determined by reservoir participation, discounted for lack of ownership in the well, etc. This type of contribution gets its name from the fact that no money is payable in the event the well is completed as a producer. The idea here is that the offset lessee is willing to make a cash contribution toward the drilling of a well that in all probability will be dry but which will at least partially evaluate the leases. In the unlikely event the well is completed as a producer it is thought that the rewards are sufficiently great for the owner of the well to make cash payment from the offset lessee unnecessary. A variation of the dry-hole contribution is the bottomhole contribution, which is payable upon reaching a specified depth regardless of whether or not the well is completed as a producer. Both types of cash contributions are used infrequently.

Farmouts. A transfer of the working interest with the obligation to drill a well is called a farmout. There are any number of ways in which a farmout can be negotiated. A farmout agreement provides for the drilling of a well, or the option to drill a well, at a mutually agreed location and to a mutually agreed depth on one of the leases owned by the party making the farmout. Upon completion of the well in accordance with the terms of the farmout agreement, the lessee will assign or sublease a portion of the leases and retain an interest, usually an overriding royalty. The amount of the overriding royalty will vary widely from area to area and will depend on a number of factors including the available geological and geophysical control, the amount of the working interest, the proximity of production, producing history in the area, lifting problems, suitable markets, size of the anticipated reservoir, the number of acres being farmed out, well costs, etc.

The operator that takes the farmout will be looking to the net revenue interest to recover costs. Gross income from the sale of production less royalty, overriding royalty, and any other burdens on the leases determines net revenue interest. Acceptable net revenue interests on farmouts vary widely: a net revenue interest in Oklahoma under a pooled section might be considered

unacceptable if less than 81.25%; in North Dakota in a wildcat well, 75%; in Louisiana in a low risk, close-in prospect, 68%.

A more complicated version of the farmout is found in the better producing areas. Such farmouts are often made on the basis of a portion of the working interest being retained by the party making the farmout. A typical arrangement might be the farmout of perhaps 2,000 acres on a 60/40 basis for a free well into the tanks to 12,000 ft. The party taking the farmout would agree to drill and complete a 12,000-ft test at the party's sole cost and risk and thereby earn an assignment of an undivided 60% interest in the 2,000-acre block. If the well is productive the party making the farmout owns 40% interest in the well and in the production, usually after the operator has recovered the costs to take full advantage of available tax deductions. The party taking the farmout will obtain payout from the proceeds of the sale of production from the earning well less any royalties and overriding royalties. Subsequent operations on the farmout block would be under the terms of a joint-operating agreement.

Variations of this type of deal are countless. The well could be a free well through the wellhead rather than into the tanks. This means the operator would pay for all completion costs through the well head but would share on a 60/40 basis in erecting tanks and treating equipment. Another variation is the free well to the sand. This means the operator would drill the well (at sole cost and risk) to the objective horizon, run an electrical log, and core and test as might be required to determine the possibility of production. If a decision is made to attempt a completion the operator will pay a negotiated fraction of the cost of running a production string of casing and setting subsurface production equipment, with the party making the farmout paying the remainder of the cost. Any interest may be negotiated; one-quarter and one-third interest deals are commonly made. Other variations might allow the operator to recover completion costs before the party making the farmout would be entitled to any share of the production. The party making the farmout might keep an overriding royalty during partial or complete payout and at the time of the payout would have the option to exchange the overriding royalty for a working interest.

Carried Interest. A carried-interest contract is an arrangement between co-owners of a working interest, whereby one agrees to advance all or some part of the development or operating costs on behalf of the others and to recover such advances from future production, if any, accruing to the other owners' shares of the working interest. The co-owner advancing such costs is referred to as the carrying party and the co-owners for whom costs are so advanced are referred to as the carried parties.

A carried interest usually comes into being in connection with a farmout. The carried-interest contract may apply not only to the first well but to subsequent wells. The party making the farmout may assign a portion of the working interest to an operator who will pay all the costs of drilling and equipping the first well, and possibly additional development wells. The grantee must look to the production, if any, attributable to the grantor's share of the working interest to recovery the grantor's share of such costs. A carried interest is a share in the net and not the gross production.

Net-profits Interest. A net-profits interest is an interest in gross production measured by the net profits from the operation of an oil and gas property. A net-profits interest is similar to an overriding royalty in that it is created out of the working interest. The proceeds accruing to a net-profits interest are reducible by certain development and operating costs, which are specified in the net-profits contract. The net-profits interest is subject to such expenses to the extent of its share of the income. The owner of a net-profits interest is not required to pay out or advance money for development or operating costs, as in the case of the owner of a working interest, and is not liable for such costs. If no net profit is realized from the operation of the property the net-profits-interest owner receives no income but neither is the owner liable to the operator for a share of the loss. A net-profits interest can be regarded as a non-operating interest similar to an overriding royalty. The net-profits agreement finds its principal application in farmouts. Equitable as it may sound, this type of agreement is seldom used.

Lease Problems During Development

The lessor is often pleased and even overwhelmed by the discovery of hydrocarbons on the land and the sudden cash flow of royalty. Problems early in the development phase, such as the use of the surface for tank batteries, gathering lines, treating equipment, and roads are usually settled quickly. After a period of time, new problems arise of a subtle and sophisticated nature. As some lessors seek to maximize their royalty income, they turn to petroleum consultants and oil and gas attorneys for advice. From this effort come legal demands for additional development or release of undeveloped acreage. While development can occur both horizontally and vertically, lessor demands for development have generally been sustained by the courts in a horizontal sense only.

A more recent and more complex problem relates to the gas royalty clause and market value. The typical lease refers to the lessors' royalty as a fraction of market value. When a lessee discovers gas and enters into a long term contract for the sale of gas, the market value of gas and the contract price for gas are almost identical. However, the price of natural gas in recent years has risen dramatically. The lessee is sometimes contractually bound to a gas price with the purchaser and at the same time faces a demand from the lessor for gas prices at market value. The courts are not uniform from state to state on this issue. The U.S. Natural Gas Policy Act of 1978, with its price ceilings on categories of natural gas, may have been of some use in defending lessor suits for market value on royalty gas. Lessees now appear to be leaning to short-term gas contracts, provisions for frequent renegotiation of price, rewriting the gas royalty clause to provide for "price received" rather than market value, providing for in-kind royalty on gas, etc. Whether or not lessees will be successful in negotiating such gas contracts in periods of falling demand remains to be seen. Similarly, it can be expected that lessors and their attorneys will resist any changes in the lease form from the conventional wording on gas royalty. Resolution of this problem lies ahead.

Taxation*

The taxation of income related to oil and gas is a highly specialized field. The increasing complexity of tax laws and the very real effect that taxes have on the successful conduct of any business make it imperative that competent tax advice be sought out by any operator, however small his organization may be. The importance of tax planning can hardly be overestimated. Improper structuring of a drilling deal or a sale of a property from a tax standpoint can have the most serious of consequences. The larger organizations and major oil companies have tax departments comprised of specialists in the various subdivisions of taxation. Independents and small organizations must retain the services of tax consultants on a continuing basis.

Very briefly, all income less certain exclusions exempt from tax is gross income. Taxable income is gross income less deductions. Tax rates vary for individuals and corporations, as do long-term capital gains rates for individuals and corporations. Items of tax preference are deductions such as the excluded portion of capital gains, depletion, accelerated depreciation, and excess intangible drilling costs on productive property, all of which are subject to a minimum tax. Capital expenditures are not immediately deductible as are expenses, and must be recovered through depreciation or depletion. Some expenses, such as accelerated depreciation, are recaptured at sale, that is, become taxable at ordinary rates. The cost of tangible property used in business results in certain tax credits that are subtracted directly from the taxes due and are not a deduction.

Capital expenditures include the bonus costs of purchasing mineral leases, well and lease equipment, and most geological and geophysical exploration costs. Deductible expense items include overhead, lease rentals, abandoned leases, most intangible drilling costs, and geological and geophysical costs not resulting in lease acquisitions.

The enormous sums of money put into oil and gas exploration by private investors through limited partnerships deserve further comment. The private investor has taken advantage of the tax provisions in three principal areas: depletion, intangible drilling and development costs, and capital gains.

Depletion. A producing reservoir gradually suffers a reduction in the quantity and value of hydrocarbons in place. Depletion laws were enacted to provide for a return of capital because of mineral extraction. The taxpayer has a choice of two methods. Cost depletion provides for a reduction in basis as related to production and sale of minerals. Percentage depletion provides for a deduction of a percentage of the gross income from the property, which is limited to 50% of the net income from the property, and to 65% of net income from all sources. The U.S. Tax Reduction Act of 1975 effectively repealed percentage depletion, with certain exceptions. An exemption was allowed for independent producers and royalty owners as a percentage of qualified production, except as to transfers of producing property. For 1984 that percentage will be 15% of the first 1,000 BOPD produced, or 6 million cu ft/D gas.

Intangible Drilling and Development Costs. Taxpayers owning operating rights and incurring intangible costs may elect to expense or capitalize such costs. If the taxpayer elects to capitalize, the intangible drilling costs may be recovered through depreciation over 5 years, and are subject to an investment tax credit. Such capitalized costs do not represent a tax preference item. Since capitalization of such costs offers no real tax benefits, most taxpayers elect to expense such costs.

Intangible drilling costs may represent 80 to 90% of the cost of an exploratory well; the remaining portion representing tangible costs of equipment with salvage value. It is no surprise to note the enormous success of drilling funds through limited partnerships as such large deductions are made available to investors.

Capital Gains. A sale of a capital asset after a holding period set by law will subject the taxpayer to greatly reduced tax rates of a maximum of 20% of the profits of the sale. The sale of leases, either producing or nonproducing, is subject to these favorable capital gains tax rates. The attraction of such favorable tax treatment in the event of future sales of properties has been a further inducement to investors in oil and gas exploration.

Offshore Leasing

Jurisdiction. Fifteenth and sixteenth century explorers claimed vast areas of waters, entire gulfs, seas, and oceans. However, these early claims, as a practical matter, were unenforceable. The extent of national sovereignty over the waters has not been resolved in international law. By presidential proclamation in 1945, the U.S. regards the natural resources of the Outer Continental Shelf (OCS) as a territory owned by the nation. The Submerged Lands Act of 1953 confirmed the jurisdiction and control of the U.S. over the natural resources of the seabed of the continental shelf seaward of the state boundaries.

Producing and Leasing History. The first commercial oil production in the Gulf of Mexico was discovered in 1947 on a Louisiana state lease. Drilling on federal lands under the OCS Lands Act began in 1954. Since 1956, the OCS (Atlantic, Pacific, Gulf of Mexico, and Alaska, comprising over more than 1 billion acres) has produced about 6 billion bbl of oil and about 55 Tcf gas. Leasing has proceeded at a snail's pace. For years, into the early 1970's, the abundance of oil and gas onshore and in world markets suppressed offshore leasing exploration with its high costs. As the search intensified, efforts to schedule lease sales met with great opposition from environmental groups. The time required for environmental assessment, state and local government comment, and so on, sometimes exceeded 3 years. The U.S. Dept. of Interior recently has moved to accelerate lease sales; almost the entire continental shelf will have been offered for lease at scheduled dates through 1987.

Leasing Procedure. The interior secretary prepares a proposed 5-year leasing program. In the preparation phase, the secretary invites and considers suggestions

*Written before the Tax Reform Act of 1986, which implements changes in alternative minimum tax, depletion, depreciation, investment tax credit, and deduction of losses.

from the governors of affected states, local government, industry, federal agencies, and all interested parties, including the general public. Time is provided for a response from the governors and others after preparation of a draft of a proposed program, and prior to publication in the *Federal Register*. Time is again provided for a response following publication and prior to submission to the president and congress for approval. The director of the Bureau of Land Management issues calls for nominations pursuant to an approved program, conferring with the governors where indicated. A list of tracts tentatively selected for leasing is drawn up. The director is free to make deletions or additions from the tentative selection of tracts. A selected tract will, in general, not exceed 5,760 acres. Upon approval by the secretary, the proposed notice of sale will be published in the *Federal Register*. The governors and local governments concerned again have an opportunity to comment. The secretary will make the final decision and will publish the notice of sale in the *Federal Register*. The sale itself will be held no sooner than 30 days after publication. Tracts are offered for lease by competitive sealed bidding. Leases are issued only to qualified bidders. Leases are issued for an initial period of 5 years, although longer times are provided for where unusually deep water or adverse conditions would discourage exploration and development. Annual rentals are due in advance to maintain the lease in the absence of production. Royalties bid are variable with one-eighth royalty being a minimum. Royalties on all leases in the Gulf of Mexico average about one-sixth.

After being awarded a lease, a lessee seeks to obtain the necessary permits. The lessee or operator will usually drill one or more test wells to determine whether hydrocarbons are present. If oil and/or gas is discovered, the operator, as a matter of common practice, will abandon the exploratory holes without attempting to complete or produce from them. Exploratory wells are usually used to obtain information about potential oil and gas accumulation. Development or production wells are normally drilled from a production platform.

Economic Impact of Offshore Leasing. The interior secretary has stated that 85% of America's untapped oil wealth is on publicly owned lands, of which two-thirds is thought to be offshore. The economic implications for the future in exploring and developing such reserves are truly significant. The amount of capital required for such exploration and development is staggering. But consider the recent past: the OCS has produced about 6 billion bbl oil and 55 Tcf gas. There would appear to be little question about the ever-increasing significance of the leasing, exploration, and development of lands comprising the OCS.

General References

Hardy, George W. III: *Louisiana Petroleum Land Operations*, Inst. for Energy Development Inc., Oklahoma City (1980).

Kuntz, Eugene: *Kuntz Oil and Gas*, W.H. Anderson Co., Cincinnati, OH (1960).

Mosburg, Lewis G. Jr.: *Petroleum Land Practices*, IED Exploration Inc., Tulsa (1978).

Mosburg, Lewis G. Jr.: *Basics of Structuring Exploration Deals*, IED Exploration Inc., Tulsa (1979).

"Outer Continental Shelf Mineral Leasing and Rights-of-Way Granting Programs," *Circular* No. 2446, U.S. Dept. of the Interior, Bureau of Land Management (1979).

Prentice-Hall Federal Tax Handbook, Prentice-Hall Inc., Englewood Cliffs, NJ (1986).

Woodard, Robert G.: *Basic Land Management*, Inst. for Energy Development Inc., Oklahoma City (1982).