

Purchasing and Owning an Oil and Natural Gas Producing Property

By Russell James Walker

I. Oil and Natural Gas – the “Science” of Exploration and Production

How do oil and natural gas originate?

Why do oil and gas fields exist?

How does one extract –
oil and gas from an oil and gas field?
oil from an oil field?
gas from a gas field?

How is an oil and gas well drilled and constructed?

II. Definitions

Applicable to oil and gas rights and properties only.

Derived mostly from Oklahoma law; the laws vary, but not significantly for these purposes, in other states.

Fee - the greatest interest which can be owned in land; stretches from the top of the heavens to the center of the earth; the way in which a fee (or any interest in real property) may be used is subject to restrictions, *e.g.*, zoning restrictions. See page 15 below.

Severed Mineral Estate - the right to explore for and extract oil and natural gas, the ownership of which right has been separated from the ownership of the balance of the fee, which balance is then often called the “**surface**” estate. See page 15 below. While the exact nature of the mineral estate varies

slightly from state to state, the mineral estate's basic characteristics are essentially the same everywhere:

- A. The mineral estate is the dominant estate; the mineral estate owner has the right of ingress and egress and the right to use so much of the surface of the land covered by the mineral estate as is reasonably necessary to explore for and extract oil and natural gas from that land and has the right to dispose of salt water produced with oil and gas back into the subsurface of the land.
- B. The mineral estate owner has the right to **"lease"** his interest to a third party to permit the third party to explore for and extract oil and natural gas from the land covered by the mineral estate.
- C. The various components of ownership of a severed mineral estate (the "bundle of rights" which is the mineral estate) may actually be owned by separate owners:
 - i. The right of ingress and egress and to use the surface (see above).
 - ii. The right to dispose of produced salt water (see above).
 - iii. The right to "lease" the interest to a third party for exploration and extraction purposes (see above). The mineral estate owner who grants the lease is called the **"lessor"**; the third party, usually an oil and natural gas exploration and production company, who receives the lease is called a **"lessee."**

- iii. In connection with leasing, the following rights exist and may be owned by separate owners:
 - a. The right to receive a cash consideration (called a **“cash bonus”**) in consideration of leasing.
 - b. The right to receive a payment (called a **“delay rental”**) paid in consideration of delaying the obligation to drill a well expeditiously otherwise implied under a lease.
 - c. The right to receive a cost-free share of the oil and natural gas produced from the leased land (called a **“royalty”**).

- D. The severed mineral estate is often called simply the “mineral estate” or the “mineral interest.” However, while these terms are often used in conveyances and learned writings, neither is really adequate to describe that which is owned. In Oklahoma, when conveying or otherwise dealing legally with a mineral interest, one should use the following expression:
“the right to explore for and produce oil and natural gas, together with the right of ingress and egress.”
- E. If certain rights are not expressly included in the bundle of rights included in the conveyance or reservation of a severed mineral interest, then a lesser interest than the entire mineral fee (defined for the purpose of this presentation as the greatest interest which can be owned in minerals) is

being conveyed or reserved. For example, if the right of ingress and egress is not expressly conveyed or reserved, then what is being conveyed or reserved is a mere royalty (the right to receive a cost-free share of oil and gas production) and not a full mineral fee. If the right to lease is expressly excluded, then the recipient of the conveyance or reservation receives not a full mineral fee but rather what is variously known as a **“non-participating mineral interest”** or a **“non-participating royalty interest”** because the recipient may not participate in the leasing transaction.

- F. A mineral estate may be created by conveyance or by a reservation from a conveyance. The mineral estate is typically conveyed via a document commonly called a **mineral deed**. If one is purchasing an interest in a mineral estate, one should assure that all elements essential to a full conveyance (*e.g.*, the right of ingress and egress) are included and that none (*e.g.*, the right to lease) is excluded. A mineral conveyance may be limited to a term, *e.g.*, to a term of stated years or for life (*i.e.*, a life estate).

Oil and Gas Lease - the document which conveys, typically for a two-phrase term called the primary term and the secondary term, the right to explore for and produce oil and natural gas, along with the right of ingress and egress, from that right's owner, usually called the mineral owner (*i.e.*, the owner of the mineral estate), to a party, usually an oil and natural gas exploration and

production company, which desires to exercise that right by drilling and producing an oil and gas well on the leased land. The lessor will typically receive a cash bonus in consideration of leasing and will have the right under the lease to receive a delay rental payment annually during the primary term and a royalty if oil and/or natural gas are/is produced. See pages 15 and 16 below.

The oil and gas lease is both a conveyance of an interest in real property (the right to explore for and produce oil and gas and the right of ingress and egress) and a contract expressing or implying how that right will be exercised by the lessee.

The modern oil and gas lease typically has a duration defined by two terms – a **“primary term”** and a **“secondary term.”** During the primary term, usually a relatively short time from six months to five years, the lessee must establish the so-called commercial production of oil and/or natural gas from the lease. **“Commercial production”** is a quantity of production of oil and/or gas whose value, when realized by sale, exceeds the cost of oil and/or gas production operations on the lease, though the sums of those periodic (monthly) profits may never equal the cost of drilling and installing the production wells and facilities. If commercial production exists at the end of the lease’s primary term, then the lease’s duration becomes defined by its secondary term, during which the lease will remain in force and effect for so

long as commercial production continues. The lease terminates when the commercial production ceases, and the lessee* must then abandon production, plug the production wells, remove production facilities, remediate the lease, and return the surface (in its approximate original condition) to the surface owner and the right to drill and produce to the mineral estate owner.

*This will be you, as a successor to the original lessee.

In the typical leasing transaction, the lessor retains a share of production, called royalty, for himself. No cost of exploration or production is typically charged to or payable out of the royalty, so the royalty share of production is sometimes called a cost-free share of production. See pages 15 and 16 below. There is, however, at least one cost which the royalty share must bear – the severance tax which most states impose on the wellhead value of produced oil and natural gas. The royalty share may also bear certain post-production costs, such as the cost of transporting the product (oil or gas) to market.

Overriding Royalty Interest - a cost-free share of oil and gas production carved out of the lessee's share of production after the mineral estate owner's cost-free royalty share is accounted for. An overriding royalty interest can be created by assignment or by reservation from an assigned interest. See page 16 below.

Other Terms of Interest:

Production Payment – an overriding royalty interest limited to a certain quantity of oil and/or gas or to a stated dollar amount.

Net Profits Interest – a right to receive a share of the periodic profit, if any, generated by an oil and natural gas production operation. No obligation to pay costs if costs exceed revenues.

Unitization – joining more than one tract of land together for the purpose of sharing the costs and revenues of an oil and gas production operation just as if the joined tracts were but one undivided tract. May be achieved voluntarily or, in some states, compulsorily as a result of court order.

Wellbore rights – not a term of art or law but one frequently (mis)used. Refers to the right under an oil and gas lease to produce oil and gas from but one, defined wellbore.

III. **Conveyancing**

Mineral estates and undivided fractional interests in mineral estates are usually conveyed by so-called **mineral deeds** or created by reservation from a conveyance.

Oil and gas leases convey the right to drill (and to use the surface) for a term with a retained royalty. See page 15 below.

Assignments are used to convey oil and gas leases or undivided fractional interests in oil and gas leases. See page 17 below.

Assignments or reservations are used to create overriding royalty interests (see page 16 below), production payments, and net profits interests or undivided fractional interests in any of these.

Any conveyance may convey a defined interest (*e.g.*, “an undivided 10% interest in and to the oil and gas lease described as follows”) or an undefined interest (*e.g.*, “an undivided 10% of assignor’s right, title, and interest in and to the oil and gas lease described as follows”) in the property being conveyed. Any conveyance may be either with or without warranty of title. Title insurance is virtually never used to guard against the risk of a title failure.

IV. **Co-tenants**

Co-tenants are the concurrent owners of “equal” interests in real property or in an interest in real property, *e.g.*, an oil and gas lease. Each co-tenant may independently exercise the rights of ownership but not to the exclusion of the other co-tenants. Co-tenancies are created by the conveyance or reservation

of an undivided fractional interest in a property or property right, as described under Conveyancing above. See page 17 below.

V. **Operations**

A producing oil and gas property is managed by an **“operator.”** The operator, for himself (if he owns an oil and gas leasehold interest (popularly but not technically called a **“working interest,”** *i.e.*, a cost-bearing share of production) in the property) and for other co-tenant **“working interest owners,”*** maintains the wells to maximize production while minimizing costs. He also performs or contracts for all of the accounting, legal, engineering, geological, and other services necessary to establish, maintain, sell, and account for production and the cost of production. He pays all of the costs of production and invoices each co-tenant working interest owner* for that owner’s fractional share of costs. He (or the product’s purchaser) may distribute to each such owner* that owner’s share of oil and gas sales received. See page 18 below. He typically operates pursuant to an operating agreement, almost always a standard-form agreement used industry-wide called an American Association of Petroleum Landmen Form 610 Model Form Operating Agreement, to which is usually attached as an exhibit a standard-form, industry-accepted Accounting Procedure containing uniform industry-wide accounting standards prepared by the Council of Petroleum Accountants Societies of North America. Operations may include additional drilling on a lease to increase or maintain production, to attempt to extend

production limits beyond current field exterior boundaries, or to attempt to establish production from geologic formations which have not yet produced on the lease or in the field. Each co-tenant working interest owner* will have the right but not the obligation to participate in that additional drilling by paying his undivided fractional share of the cost. In fact, under the typical operating agreement each such owner* may actually propose and initiate such a drilling operation.

*This will be you.

VI. Purchasing an Interest in an Oil and Natural Gas Property

Interests in oil and natural gas properties are purchased in the same manner as an interest in any other kind of asset. Terms of the purchase and sale of oil and gas properties, as in the sales of other types of assets, are negotiated. The purchaser* evaluates the property and then seeks to strike a bargain with the seller. If they agree on the purchase price and other terms of the transaction, then a purchase and sale contract is prepared and executed. Included in the negotiated terms should be an allocation of the purchase price among the various categories of property being sold and purchased, in this case oil and gas wells (the holes in the ground), the equipment in, on, or associated with the wells, and the oil and gas leases, including future oil and gas production from the leases. There are usually at least two pre-conditions to a fully binding contract – a title search to assure that the seller owns the interest to be sold and an environmental evaluation to assure that the purchaser will be

acquiring no liability for existing environmental harm or remediation of existing environmental conditions. If and when those and any other identified conditions are satisfied, the contract becomes binding, and the parties proceed to closing. An effective date – almost always the first day of a calendar month for oil and gas sales accounting reasons (including the gauging of oil holding tanks on the last day of the prior calendar month) – is chosen. At closing, the purchase price is paid, the conveyancing documents and any other necessary records are exchanged, and the transaction is complete. If a new operator is to be chosen, all steps to effectuate the election and qualification of the new operator must be taken. Also, notice must be given to the purchasers of the produced oil and natural gas to pay the proceeds of sale to a new owner or for the account of a new owner. This change is accomplished by the execution and delivery of a so-called “**transfer order**” to the purchasers.

*This will be you.

VII. **How Are Oil and Gas Sold?**

A. Oil, being a liquid (crude petroleum), either (i) is pumped (or “**run,**” in industry parlance) into a holding tank, from which it is removed by a transport truck, usually operated by the oil’s purchaser, and trucked to the purchaser’s pipeline or refinery or (ii) is run directly into a purchaser’s pipeline. Prices are usually established in the futures market, with the actual price in the field, the so-called “**spot**” price, being slightly less than the near-term futures price. Each day every oil purchaser posts (*i.e.*,

publishes) its spot price, the price it is paying for a given grade of oil in a given area that day. The price paid for oil purchases as above described is the posted price on the day when the oil is delivered to the purchaser. Information about posted price is widely published. Prices in a given area are usually virtually identical among various purchasers in that area. The sale typically occurs at the lease where the oil has been produced. Typically only one purchaser purchases all of the oil produced at a given lease, even if more than one owner* owns an interest in the oil. A so-called “**division order**,” usually a very short document, is typically the oil sale contract, which is usually for no more than a one-month duration.

*This is you.

- B. Natural gas (methane), being a gas, must remain contained in vessels which leak as little as possible from the time when it is extracted from the subsurface via the well until the time when it is consumed by its end user. Thus, when it exits the well, natural gas is run into a pipeline which, through successive pipelines, carries it to the ultimate destination of its end use. It may pass through processing facilities or a processing plant to extract impurities, which detract from its value, or to extract liquids (*e.g.*, propane and butane) entrained in the stream of natural gas, which liquids typically, but not always (depending on their quantity in the stream and their current price), enhance the value of the natural gas stream. Today, but not necessarily historically, natural gas prices are typically established

monthly in relation to the price of natural gas for that month at a location in Louisiana called Henry Hub, where a number of major natural gas transmission lines intersect. Natural gas produced behind (*i.e.*, west) of Henry Hub receives a lower price and natural gas produced in front (*i.e.*, east) of Henry Hub a higher price than natural gas sold at Henry Hub. The difference is called “**basis.**” The Henry Hub price is influenced by the futures price and for a given month is usually established during “**bid week,**” when each purchaser will publish the price which it is paying for natural gas (stated in dollars per 1,000,000 BTU of gas) delivered at a stated delivery point. Some natural gas, like oil, is sold daily, and some is sold under long-term contract. Natural gas is sometimes sold at the wellhead and sometimes at a location remote from the lease. Whether the royalty (and overriding royalty) interest owners bear the cost of transportation is currently a contentious issue in many states. Rather detailed written contracts are usually involved in the sale of natural gas. There is often little flexibility in choosing a purchaser of natural gas because of the limited availability of pipeline facilities. Often two separate fractional working interest owners* of a natural gas well may sell their produced gas into two different purchasers’ pipelines, and, because of production and pipeline vagaries, one selling owner may deliver more gas to his purchaser than he owns and the other less. In this instance, sales volume imbalances arise and are often difficult to reconcile, especially in the short run. One job of an operator is to maintain a summary record of

which owners, if any, are undersold (called “**under-balanced**”) and which, if any, are oversold (called “**over-balanced**”) and seek to cause the out-of-balance owners to balance their accounts by adjusting gas deliveries or by paying cash to an under-balanced owner by an over-balanced owner.

*This could be you.

- C. The proceeds of sale of oil and gas are usually paid by the purchaser by approximately the 25th day of the calendar month following the calendar month when the product (oil or gas) was delivered to the purchaser. The purchaser may pay the sale proceeds directly to each fractional interest owner (royalty and working interest*) or pay the proceeds to the operator, who will make distribution to each owner. The operator may “**net bill**” a fractional working interest owner,* *i.e.*, send that owner his share of monthly sale proceeds less his share of monthly expenses. See page 18 below. If a month’s expenses exceed that month’s revenues, then the fractional working interest owner* must pay the operator that owner’s share of the difference.

*This is you.

FEE OWNER

<u>What is Owned?</u>	<u>Percentage Owned</u>
All rights, including oil and natural gas rights and obligations	100%

I. OWNER OF SEVERED MINERAL ESTATE

<u>What is Owned?</u>	<u>Percentage Owned</u>
The right to explore for and produce oil and natural gas and the right of ingress and egress	100%
The balance of the fee	0%

OWNERSHIP AFTER AN OIL AND GAS LEASING TRANSACTION

<u>What is Owned?</u>	<u>Percentage Owned</u>	
	<u>Lessor*</u>	<u>Lessee+</u>
The right to explore for and produce oil and natural gas and right of ingress and egress for a primary and secondary term	0%	100%
Right to receive royalty	100%	0%
Obligation to pay royalty	0%	100%
Right to explore for and produce oil and gas and the right of ingress and egress after the lease expires	100%	0%

* Typically a fee or mineral estate owner

+ Typically an oil and gas exploration and production company

II. SHARING OF COSTS AND REVENUES
VIII. AFTER AN OIL AND GAS LEASING TRANSACTION

	<u>Cost Share</u>	<u>Revenue Share</u>
Lessor	0%	18.75% (royalty)
Lessee	100%	81.25%
Total	<u>100%</u>	<u>100%</u>

III. SHARING OF COSTS AND REVENUES
IX. AFTER AN OIL AND GAS LEASING TRANSACTION

After Lessee compensates his geologist by assigning the geologist an overriding royalty interest of 1.75%

	<u>Cost Share</u>	<u>Revenue Share</u>
Lessor	0%	18.75% (royalty)
Geologist	0%	1.75%
Lessee	100%	79.50%
Total	<u>100%</u>	<u>100%</u>

IV. SHARING OF COSTS AND REVENUES
X. AFTER AN OIL AND GAS LEASING TRANSACTION

After Lessee sells ½ of his interest to a third-party Assignee.

	<u>Cost Share</u>	<u>Revenue Share</u>
Lessor	0%	18.75% (royalty)
Geologist	0%	1.75%
Lessee	50%	39.75%
Assignee*	50%	39.75%
Total	<u>100%</u>	<u>100%</u>

*This is you.

HYPOTHETICAL CASH FLOW ANALYSIS

Initial costs – Either The cost of leasing and drilling, completing,
and equipping a well or wells

Or The cost of acquisition*

Production phase – monthly accounting per well

Product sale during month		\$10,000.00
Less: Severance tax	(700.00) +	
Royalty	(1,875.00)	
Overriding royalty	(175.00)	
Pumper (field oversight)	(300.00)	
Overhead (office oversight)	(200.00)	
Electricity	(500.00)	
Chemicals	(400.00)	
Parts	(600.00)	
		(4,750.00)
Net monthly revenue before income tax		<u>\$ 5,250.00</u>

Depreciation, depletion, and amortization will be subtracted from \$5,250.00 to generate taxable income.

Depreciation: The cost of the equipment purchased is capitalized and depreciated. There may be an investment tax credit as well.

Depletion: The cost of the oil and gas lease is capitalized and recovered through depletion. Cost-based depletion is virtually identical to depreciation. Percentage depletion permits an annual deduction equal to a percentage of gross revenue limited to a percentage of net revenues.

*This is you. There is a Texas state sales tax on the interest in equipment purchased.

+In Texas, the severance tax is 4.6% on oil and 7.5% on natural gas.

FEE OWNER

<u>What is Owned?</u>	<u>Percentage Owned</u>
All rights, including oil and natural gas rights and obligations	100%

V. OWNER OF SEVERED MINERAL ESTATE

<u>What is Owned?</u>	<u>Percentage Owned</u>
The right to explore for and produce oil and natural gas and the right of ingress and egress	100%
The balance of the fee	0%

OWNERSHIP AFTER AN OIL AND GAS LEASING TRANSACTION

<u>What is Owned?</u>	<u>Percentage Owned</u>	
	<u>Lessor*</u>	<u>Lessee+</u>
The right to explore for and produce oil and natural gas and right of ingress and egress for a primary and secondary term	0%	100%
Right to receive royalty	100%	0%
Obligation to pay royalty	0%	100%
Right to explore for and produce oil and gas and the right of ingress and egress after the lease expires	100%	0%

* Typically a fee or mineral estate owner

+ Typically an oil and gas exploration and production company

VI. SHARING OF COSTS AND REVENUES
XI. AFTER AN OIL AND GAS LEASING TRANSACTION

	<u>Cost Share</u>	<u>Revenue Share</u>
Lessor	0%	18.75% (royalty)
Lessee	100%	81.25%
Total	<u>100%</u>	<u>100%</u>

VII. SHARING OF COSTS AND REVENUES
XII. AFTER AN OIL AND GAS LEASING TRANSACTION

After Lessee compensates his geologist by assigning the geologist an overriding royalty interest of 1.75%

	<u>Cost Share</u>	<u>Revenue Share</u>
Lessor	0%	18.75% (royalty)
Geologist	0%	1.75%
Lessee	100%	79.50%
Total	<u>100%</u>	<u>100%</u>

VIII. SHARING OF COSTS AND REVENUES
XIII. AFTER AN OIL AND GAS LEASING TRANSACTION

After Lessee sells ½ of his interest to a third-party Assignee.

	<u>Cost Share</u>	<u>Revenue Share</u>
Lessor	0%	18.75% (royalty)
Geologist	0%	1.75%
Lessee	50%	39.75%
Assignee*	50%	39.75%
Total	<u>100%</u>	<u>100%</u>

*This is you.

HYPOTHETICAL CASH FLOW ANALYSIS

Initial costs – Either The cost of leasing and drilling, completing,
and equipping a well or wells

Or The cost of acquisition*

Production phase – monthly accounting per well

Product sale during month		\$10,000.00
Less: Severance tax	(700.00) +	
Royalty	(1,875.00)	
Overriding royalty	(175.00)	
Pumper (field oversight)	(300.00)	
Overhead (office oversight)	(200.00)	
Electricity	(500.00)	
Chemicals	(400.00)	
Parts	(600.00)	
		(4,750.00)
Net monthly revenue before income tax		<u>\$ 5,250.00</u>

Depreciation, depletion, and amortization will be subtracted from \$5,250.00 to generate taxable income.

Depreciation: The cost of the equipment purchased is capitalized and depreciated. There may be an investment tax credit as well.

Depletion: The cost of the oil and gas lease is capitalized and recovered through depletion. Cost-based depletion is virtually identical to depreciation. Percentage depletion permits an annual deduction equal to a percentage of gross revenue limited to a percentage of net revenues.

*This is you. There is a Texas state sales tax on the interest in equipment purchased.

+In Texas, the severance tax is 4.6% on oil and 7.5% on natural gas.