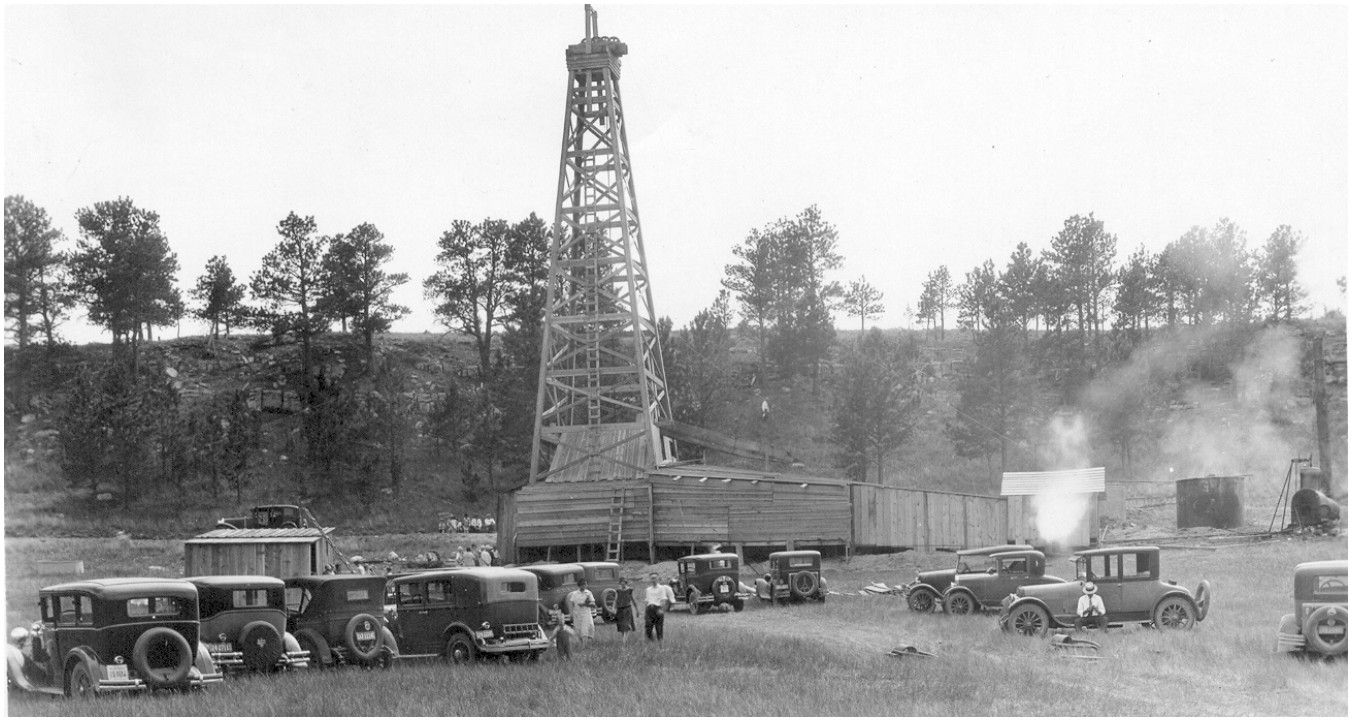

THE ARKANSAS LEASING MANUAL

by

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TABLE OF CONTENTS

I. Original Claims to the State of Arkansas 1

II. The Nature of Ownership Interests 2
- A. Rights and Interests in Land 2
- B. Kinds of Estates in Land 2
- C. Possessory Interests in Land 2
- D. Easements, Rights-of-Way, and Licenses 3
- E. Rights-of-Way v. Fee Estates 3
- F. Profits, Mineral Severance and Emblements 4
- G. Charges Against the Land 4
- H. Mineral and Timber Severances 4
- I. Air Space 4
- J. Co-Ownership of Land 4
- K. Loss of Rights to and Interests in Land 5

III. Surveying and Boundaries 5
- A. Origin of Surveys 5
- B. Metes and Bounds 5
- C. The Rectangular System 5
- D. Descriptions 7

IV. The Nature of the Mineral Estate 7
- A. Mineral Interests 7
- B. Leasehold Interests 8
- C. Royalty Interest 9

V. Methods of Acquiring Mineral Interests 9
- A. Deeds 9
- B. Testamentary Disposition - By Will 9
- C. Intestate Succession 10
- D. Adverse Possession 10
- E. Tax Titles 11
- F. Dower and Curtesy 1
- G. Separate Property 12
- H. Trusts 12

VI. Types of Mineral Ownership 12
- A. Cotenancy 12
- B. Life Estates and Remaindermen 12

VII. State Lands 13
- A. Navigable Streams 13
- B. Leases from the State 13
- C. Forfeited Lands Sold by the State 14

VIII. Trespass 14
- A. Good Faith or Bad Faith 14
- B. Seismic Trespass 14

IX. Damages 15

X. The Oil and Gas Lease Provisions 15
- A. Habendum Clause 15
- B. Statutory Pugh Clause 15
- C. Paying Quantities 16
- D. Leases Held by Production (HBP) 16
- E. Top Leases 16

XI. Execution and Recordation of the Lease 17
- A. Execution 17
- B. Recordation 17

XII. Brine or Salt Water 17
- A. Mineral or Not 17
- B. Calculating Market Value 17
- C. Rule of Capture 17
- D. Production Units 18

XIII. Oil and Gas Exploratory Production Units 18

XIV. Guardianship and Receiver Leases 18
- A. Guardianship Leases 18
- B. Receiver Leases 19

XV. The Arkansas Oil and Gas Commission 19
- A. Field Rules 19
- B. Integration of Unleased Interests 19
- C. Wildcat Integration 20
- D. Application to Drill 21
- E. Severance Tax Credit 21

XVI. Powers of Attorney 21
A. General Rules Regarding Powers 21
B. Rule of Strict Construction 21
C. Execution of Instrument by Agent 21
D. Power to Sell and Convey 22
E. Revocation by Principal 22
F. Insanity or Death of Principal 22

Appendix "A" Forms of Acknowledgment 23

1. Short-form Single or Joint Acknowledgment 23
2. Long Form Single Acknowledgment 23
3. Long Form Joint Acknowledgment 23
4. Short-form Corporate (or Partnership) Acknowledgment 23
5. Corporate Acknowledgment - One Officer 23
6. Corporate Acknowledgment - Two Officers 24
7. Partnership Acknowledgment 24
8. Foreign Country Acknowledgment 24
9. Military Acknowledgment 24
10. Acknowledgment for Signature by "Mark" 24

Appendix "B" Sample Lease Clauses 25

1. Abstracts 25
2. Acceptance of Terms of Lessee's Assigns 25
3. Assignment of the Lease 25
4. Breaches of Lease Terms 25
5. Conflicts between Printed Form and Typed Terms 25
6. Conversion of an Oil or Gas Well to an Injection or Water Well 25
7. Deductions from Royalty 26
8. Depth Limitation 26
9. Division Orders 26
10. Drilling Requirements 26
11. Execution of Lease by Less Than All Lessors 26
12. Option to Extend the Primary Term of the Lease .. 26
13. Fences, Gates, Cattle Guards, Roads, Bridges, and Culverts: Construction, Use and Maintenance 27
14. Fresh Water Protection 27
15. Fresh Water Use: Limitation 27
16. Gas Prices and Sales Contracts 27
17. Geophysical Operations 28
18. Indemnification of Lessor 28
19. Information: Drilling and Production; Documentat28n; Reports to be Furnished to Lessor 28
20. Access by Lessor to Operational Areas 28
21. Limitation on Substances Covered by Lease 28
22. Litigation Costs 28
23. Livestock Protection 29
24. Location of Wells, Lines, Roads, Tank Batteries, and Other Structures 29
25. Maintenance of Operational Areas and Control of Debris and Weeds 29
26. Royalty Payments: Minimum Payments 29
27. Offset Well Protection and Payment of Compensatory Royalty 29
28. Pipeline Easements 30
29. Pipelines: Laying and Burying 30
30. Plugging Requirements 30
31. Reservation of a Call on or Preferential Right to Purchase Production by Lessor 30
32. Pooling and Lease Termination on Lands and Depths not Included in Pooled Unit 30
33. Reasonable Development 31
34. Reentry of Wells 31
35. Release of Lease 31
36. Removal of Lessee's Equipment and Personal Property 31
37. Reservation of Additional Interests in Production 31
38. Royalty Payments 32
39. Salt Water: Disposal, Storage, and Handling 32
40. Shut-in Gas Royalty 32
41. Surface Damages: Payments of Use of Surface Damage to Lessor's Property 33
42. Surface Pits 33
43. Surface Restoration and Reparation 33
44. Surface Use by Lessee and Accommodation with Agricultural Use of the Surface 33
45. Surface: Unauthorized Use 33
46. Taking Lessor's Oil and Gas Royalty in Kind 34
47. Top Leases 34
48. Top Leasing Prohibition 34
49. Use of Produced Oil or Gas by Lessor and Lesse . 35
50. Warranty 35
51. Water Wells Drilled by Lessee 35

THE ARKANSAS LEASING MANUAL

I. ORIGINAL CLAIMS TO THE STATE OF ARKANSAS

At least four Indian tribes are identified with the early history of Arkansas, the first being the **Arkansas** or -- more properly speaking -- the **Quapaw.** The state derived its name from this tribe or, according to some authorities, from the region's principal river. The second group were the **Cherokee** of Iroquoian stock. A considerable number of the more conservative members of the tribe relinquished claim to their lands and, by the *First Cherokee Treaty,* accepted a grant in Arkansas. The third group, the **Choctaw**, belonged to the Muskhogean family. By the *Choctaw Treaty of 1820,* the main body of the tribe ceded their lands east of the Mississippi River and received in return a large tract west of that river. This tract included Southwest Arkansas. The fourth were the **Osage.** Other than these tribes, the **Caddo**, **Kichai** and **Wichita** tribes of the Southern group of the Caddoan family were scattered throughout the region.

Lands north of the Arkansas River were ceded to the United States by the **Arkansas** tribe under the *Treaty of 1818;* by the **Cherokee** under the *Treaty of 1828;* and, by the **Osage** under the *Treaties of 1809,1818* and *1825.* Lands south of the Arkansas River were ceded to the United States by the **Arkansas** tribe under *Treaties of 1818* and *1824,* and what is now Miller County was ceded to the United States by the **Caddo** under the *Treaty of 1835.*

The United States held the fee simple title to the lands occupied by the Indians and could have disregarded their right of occupancy and, before a cession by the Indians, had the power to convey an unencumbered title in fee simple, to take effect immediately, or a title subject to their right of possession and to take effect only when they, by voluntary cession, yielded their title. The policy of the government was to protect the lands occupied by the Indians from settlement and not to convey the title until the possessory rights of the Indians had been extinguished. The Indians themselves were without power to dispose of the fee in lands occupied by them even though such lands had been allotted to them by another sovereignty from whom the United States had acquired title.

Robert Cavelier, Sieur de la Salle, a native of Rouen, France, received letters patent from Louis XIV authorizing him to continue the explorations of Marquette and Joliet to "find a port for the king's ships in the Gulf of Mexico, discover the western parts of New France, and find a way to penetrate Mexico."

La Salle's expedition arrived at the mouth of the Arkansas River and, on April 9, 1682, La Salle ascended the river until high ground was reached and, erecting a cross bearing the arms of France, formally took possession of "all the country drained by the great river and its tributaries" and conferred upon the territory thus claimed the name of Louisiana, in honor of the French king.

After several unsuccessful attempts to plant colonies in the new province of Louisiana, the Duke d'Orleans, regent for Louis XI, issued a royal grant giving the "Western Company" which had been organized by a Scotch man named John Law, authority to make permanent settlements, appoint governors and judges, and to receive "in perpetuity all of the lands, harbors and islands which compose our province of Louisiana." In 1718 John Law received a personal grant of 82,160 acres on the Arkansas River. Further attempts at colonization failed; the settlers grew discouraged, and the Indians became troublesome; and, on April 10, 1732, the company surrendered its charter to France.

The *Treaty of Fontainebleu* ceded to England the Dominion of Canada, the country around the Great Lakes and that part of Louisiana lying east of the Mississippi River. On the same date and at the same place, a secret treaty was negotiated by which France ceded all her possessions west of the Mississippi River to Spain. The provisions of the above treaties were reasserted by the *Treaty of Paris* (February 10, 1763), whereby England and Spain were confirmed in their new possessions.

On October 1, 1800, Spain, by the *Treaty of St. Ildefonso,* ceded Louisiana back to France because of the influence of Napoleon. This treaty was not made public until November 30, 1803. It was confirmed by the *Treaty of Madrid,* March 21, 1801. All grants by Spain after 1800 were void. Jefferson wrote to Robert L. Livingston, the Minister to France, directing him to open negotiations with Napoleon and Talleyrand for cession of the island of Orleans, or, if refused, the right of deposit at New Orleans and the free navigation of the river. Talleyrand startled Mr. Livingston by a counter offer to sell the whole of Louisiana. James Monroe, arriving in France as Minister with $2,000,000.00 to pay for the island, conferred with Livingston or her agent who, a few days later, reached an agreement with Marbois to purchase the whole of Louisiana, a territory of 900,000 squares miles in which was included the present State of Arkansas, for 80,000 francs. This agreement was embodied in the *Treaty of Paris on* April 30, 1803.

By the *Act of March 26, 1804,* the Province of Louisiana was divided. All that portion lying South of 33° North Latitude was designated as the *Territory of Orleans,* and the remainder of the purchase as the *District of Louisiana,* with the capital at St. Louis. Arkansas was, therefore, in the *District of Louisiana.* However, soon thereafter, this district was divided into the districts of St. Louis, St. Charles, Cape Girardeau, St. Genevieve, and New Madrid. On June 27, 1806, the legislature of the Louisiana Territory passed an act creating the *District of Arkansas* out of the southern part of the New Madrid District.

Residents of Missouri Territory living north of the present northern boundary line of Arkansas, presented a memorial to Congress in 1818 petitioning for statehood. Fearing to be left without any form of civil government, preemptors then living in what is now the State of Arkansas under the *Squatter's Land law of 1814,* and other honest settlers residing south of the proposed line, although opposed by a strong lawless element, petitioned Congress on January 30, 1819, for the creation of the *Arkansas Territory.* This territory was created by the *Organic Act* approved March 2, 1819.

The *Act of Admission* was approved June 16, 1836. Among other things, it set forth the boundaries of the State of Arkansas and provided that the people of Arkansas should never interfere with the Federal Government's primary right of disposal of the public lands nor tax such lands. The Compact was accepted by the State by an Ordinance approved October 18, 1836.

Although the ordinary legislation with respect to the public domain contemplates the retention by the United States of the entire power over land until a patent is issued, the United States may, by act of Congress, at once divest itself of all property in any portion of the public lands and may transfer it to a State or to an individual without any patent. A patent subsequently issued for land so granted is merely documentary evidence of such title.

The term *entry* in the technical sense means the act by which an individual acquires an inceptive right to a portion of the unappropriated soil of the country by filing his claim. The term is also used to connote the filing at the land office or inscription upon its records of the documents required to file a claim for a homestead or preemption rights, and as a preliminary requirement to the issuance of a patent for the land. A certificate of entry has the effect of investing entrymen with the equitable title to the new land. The legal title remains in the United States until a patent is issued, but the land ceases to be a part of public domain and belongs to the purchaser.

A patent is a conveyance of title by the United States or by a State. The legal title passes with the issuance of the patent and not before, but the equitable title passes upon final entry. Until issuance of a patent, the legal title remains in the United States.

II. THE NATURE OF OWNERSHIP INTERESTS

A. RIGHTS AND INTERESTS IN LAND

Legally, land may be separated in different ways: the division may be horizontal -- that is, the surface of the land may be owned by one person and the various underlying strata beneath the surface may be owned by the same person, another person, or various other persons, or the ownership may be by several different persons at one time, all of whose interests are undivided. There are different types of such undivided interests which the law recognizes. These are joint tenancies, tenancies in common, tenancies by the entirety, and community property interests.

In reading instruments affecting boundary lines, one must distinguish between the different possible legal effects of language used in determining the rights of the parties. This is necessary because the law quite frequently interprets questions, such as boundary disputes, differently according to the type of legal interests created by the instrument.

Such language may result in the creation of different classifications of legal interests as follows:

(a) Interest in land;
(b) Rights to land;
(c) Charges against land;
(d) Mineral severances; and,
(e) Air rights.

Each of these classifications is subdivided into different interests. The difference in the language may be minute, but in every instance, the gulf between the different types is deep and wide. Every instrument must result in one of the several interests set forth hereinabove. The courts, once the nature of the interest is established, then attach definite and certain legal consequences to the interest.

The law divides estates in land into those which give the owner immediate rights of possession *and future interests* which may or may not give a future right to possession.

B. KINDS OF ESTATES IN LAND

The highest type of interest in land that a person can hold in the United States is *a fee simple absolute.* Other estates which can arise are:

(a) determinable fee simple;
(b) fee simple upon condition subsequent;
(c) fee simple subject to conditional limitation;
(d) conditional fee -- in a few states;
(e) the fee tail -- in a few states;
(f) life estates; and,
(g) leases.

Parties also may have *rights* to land, such as easements, rights-of-way, or licenses, which must be distinguished from *estates* in land. It is also possible for a third party or person to own a profit in land or to prove emblements with respect to the land. The facts which give rise to each one of these types of situations often differ very slightly from those which would give rise to another.

C. POSSESSORY INTERESTS IN LAND

The law has traditionally recognized the following types of possessory interests in land:

(a) fee simple absolute;
(b) determinable fee simple;
(c) fee simple upon condition subsequent;
(d) fee simple subject to conditional limitation; and,
(e) life estate.

The ***Fee Simple Absolute*** is the highest type of ownership known to the law. No other person can hold an interest therein. It may, however, be subject to a right-of-way, easement, license, or equitable servitude. In most states, it is created by a Deed or Will to one or more persons without further words.

The ***Fee Simple Determinable*** is a fee simple, i.e., absolute ownership like a fee simple absolute, but the ownership continues only as long as a situation continues to exist or until an event happens. It is created by the words of grant or devise to the grantee or devisee *as long as* or to the grantee or devisee *until.* An example would be for *so long as the property continues to be used as a church.* This leaves a possibility of reverter in the grantor or devisor so that whenever the event happens, the title automatically returns to the grantor or to those who are his then legal representatives.

The ***Fee Simple Upon Condition Subsequent*** is a fee simple giving title to the grantee or devisee but subject to the condition that if something comes to pass, the original grantor or devisor or, in some states, the grantor's or devisor's then legal representatives, may re-enter and retake title. It is said to retain a *right of re-entry* or a *power of termination* in the grantor or devisor. This differs from the fee simple determinable in that the fee simple upon condition subsequent does not automatically revert. Instead, when the condition happens, the creator of the fee has the right to terminate it. Language creating it would be to *grantee, but if grantee dies childless, then to revert.* The property would pass to the grantee's heirs on the grantee's death unless the grantor retook possession.

The ***Fee Tail*** was created by the words *to grantee and the heirs of his body.* In such a case, the grantee held a fee for his lifetime, but on his death it passed to his descendants. The grantee could not sell it or devise it by Will. If the grantee died without descendants, it reverted to the original grantor as a *reversion* unless at the time of its creation the grantor had given it over to someone else by way of *remainder*. The fee tail has been abolished in nearly all states, including Texas and Arkansas.

Life Estates are exactly what they seem: the right to the possession, use, rents, and issues of the property for the party's lifetime. They are of two types: (a) legal life estates, and (b) life

estates by deed or will. Since 1981, the legal life estates of *curtesy* (a husband's rights in lands owned by a deceased wife) and *dower* (a wife's rights in lands owned by a deceased husband) grant to the surviving spouse a right to possession of one-third of the deceased spouse's lands for his/her lifetime. Life estates may also be created by Deed or Will.

D. EASEMENTS, RIGHTS-OF-WAY, AND LICENSES

Rights to Land are: (a) leases; (b) easements; (c) rights-of-way; and (d) licenses.

Leases are the right to possession and use of the land for a limited period of time. Leases may be: (a) *at sufferance,* where the tenant holds over after his term has expired, and the landlord may evict him at any time; (b) *at will,* where the tenant holds possession during the pleasure of himself and the landlord; and, (c) *periodic,* month to month, year to year, or for a specified term, such as one year, ten years, etc. In many states, attempted leases of indefinite duration are, in fact, fee simple estates.

An ***easement*** is a right to make a specific use of a definite portion of land owned by another. The owner of the underlying ground has the right to make use of it to the extent that it does not interfere with the exercise of the easement. The owner of the easement cannot use the property for purposes not intended by the easement. An easement is a property right which the fee owner cannot revoke.

An easement may be acquired by:

(a) grant through giving a deed;
(b) by prescription, i.e. through adverse use under a claim of right for a period of time;
(c) by dedication, where the owner of the land expressly or impliedly gives the state or a municipality the right of use; or
(d) by eminent domain, condemnation proceedings by the state or a subdivision thereof, or by a public utility having, by statute, the right to condemn land.

An easement is lost by abandonment or by surrender. Mere non-use, however long the duration, does not in and of itself abandon the easement. Instead, there must also be an intent of the holder of the easement to abandon it. Surrender may be by deed or acts amounting to an estoppel. In the case of public easements, surrender must be by an official act.

Upon abandonment or surrender of an easement, the owners of the underlying fee at the time of abandonment or surrender simply take the area of the easement free from the restrictions thereof. If the easement, as a road, separates two tracts of land, each owner takes their share of the easement area. If it was cut out of one side only, it all returns to that side. So, if a lot is bounded by a street, and on the other side of the street there is a railroad right-of-way, and the right-of-way is abandoned, the owner of the lot, not the municipality, takes the abandoned right-of-way, unless the municipality had a fee in the street instead of a mere easement.

Easements are spoken of as *appurtenant* or *in gross.* An *easement in gross is* personal to the owners and cannot be transferred to another except sometimes in the case of commercial easements. *Easements appurtenant* benefit adjoining land and follow the land benefited when it is transferred. The land burdened with the easement is the *servient tenement.* The land benefited is the *dominant tenement.*

An easement is to be distinguished from a fee in that the grantee of the easement has no right in the land but merely a right of use thereof for a designated purpose. When such a use ceases for any reason, the owner of the land holds the land free from the burden. The owner of the land may also use it meanwhile for any purpose which does not disturb the holder of the easement in his particular use thereof. The owner of the easement has no right to make use of the property except for the purpose of the particular easement. Easements may be destroyed by overburdening, that is, if the grantee makes use of the easement for an improper purpose, he may lose the easement. Easements may also be destroyed by termination of the particular use for which the easement was granted, that is, by abandonment by the holder of the easement. In other states easements can only be created in writing unless the party claiming the easement has used it for a number of years adversely to the owner of the land and has created an easement by prescription.

A ***right-of-way*** is a particular type of easement which is limited to use for passage only.

A ***license*** is not a right in land. It is a mere privilege to enter upon land without being subject to an action in trespass, either civil or criminal. It is mere immunity from liability for trespass. A license may be revoked by the owner of the land at anytime unless it is coupled with an interest, such as the right to remove a profit. It is revocable at will by the licensor. Sometimes, however, a license can become irrevocable if it is *coupled with an interest,* i.e., if the licensee makes improvements, or for other such reasons.

E. RIGHTS-OF-WAY v. FEE ESTATES

The title examiner or landman is frequently called up to distinguish between deeds which convey fee title or only a right-of-way. In *Coleman v. Missouri Pacific Railroad Company,* 294 Ark. 633, 745 S.W.2d 622 (1988), the Arkansas Supreme Court reviewed deeds which conveyed "a strip of land one hundred feet wide," "a strip of land 100 feet wide for right-of-way also an additional strip of land 250 feet wide lying on the south side of the said right-of-way and adjacent thereto," and a third deed which conveyed "a strip of land 100 feet wide for right-of-way . . . . also extra for depot grounds a strip of land 250 feet wide lying south of and adjoining said right-of-way." The trial court found that these deeds conveyed the fee simple title, and the Arkansas Supreme Court affirmed. One year later, in *Wylie v. Tull,* 298 Ark. 511, 769 S.W.2d 409 (1989), the court reviewed 50 deeds which generally conveyed a strip 100 feet wide or a strip 200 feet wide "for right-of-way." The trial court found all of these deeds to convey rights-of-way only, and the Arkansas Supreme Court affirmed.

Finally, in *Brewer & Taylor Company v. Wall,* 299 Ark. 18, 769 S.W.2d 753 (1989), the Supreme Court offered several guidelines or factors to be considered in determining whether it was the intent to convey a fee title or a right-of-way. The following are the factors that tend to indicate that it was the intention to convey an easement or right-of-way:

(a) The deed specifies that the land conveyed is for a right-of-way;
(b) Only nominal consideration is stated;
(c) The shape of the tract makes other uses unlikely; and
(d) The railroad is given the specific right to take stone, gravel, timber and earth from the strip itself.

In *Brewer* the Court indicated that the following factors are indications of an intent to convey a fee simple interest:

(a) The right of increasing the width of the strip of land for necessary slopes, embankments, turnouts and with the right of changing water courses, and of taking a supply of water and of borrowing or wasting earth, stone or gravel outside of the strip;
(b) The existence of additional land besides the strip; and
(c) The relinquishment of dower rights.

When a right-of-way is utilized as a road, a conveyance which states that is bounded by the road extends, nevertheless, to the center of the right-of-way, or road bed, unless a contrary intention is clearly stated. The principle applies to private as well as public roads and is in conformity with the public policy of discouraging separate ownership of narrow strips of land. *Wallner v. Johnson,* 21 Ark. App. 124, 730 S.W.2d 253 *(1987). Wallner* is helpful in that it offers definitions and rules pertaining to reservations, easements appurtenant, of necessity and by prescription, and covenants that run with the land.

F. PROFITS, MINERAL SEVERANCE AND EMBLEMENTS

A profit is a part of the soil or subsoil, such as dirt, stone, minerals, or trees. It is possible to make a grant of a profit, thus enabling the grantee to remove the particular substance granted. *A* grant of a profit is ordinarily accompanied by a license or an easement to enter upon the land and remove the profit. The ordinary, so-called Mineral Lease of oil or gas is not a lease at all but actually an option to purchase a profit with an easement to enter and remove the profit within a stated time and under stated conditions.

However, a sale of a profit is to be distinguished from a *mineral severance.* In the case of a mineral severance, the grantee purchases the entire strata underneath the land as, for instance, a particular seam of coal or all of the minerals underneath the soil. In the case of the sale of the profit, the grant is a permanent one, and does not terminate upon failure to remove the profit within a stated time nor is the owner of the profit required to pay an annual rental for the property or the profit sold. Whether a particular deed creates a mere option for removal of a profit or a mineral severance depends upon the language of the parties. Mineral severances may have, in some instances, occurred many years before, and deeds and abstracts of title are therefore to be carefully scrutinized to see whether an old, so-called Mineral Lease may not have actually been an option to remove a profit and, thus, may have been a permanent severance of the profit from the soil with the right to remove it within a stated period.

An *emblement* is an annual crop. In most states, it is regarded as personal property even while growing. It may be sold and is always considered personalty after severance from the soil.

G. CHARGES AGAINST THE LAND

The law recognizes various types of charges against land. These are rights to have the land sold to pay a particular debt. These charges are often called *liens* or *encumbrances,* and include: (a) mortgages; (b) tax liens; (c) mechanic's liens; (d) landlord's liens; and (e) statutory liens.

Taxes are a lien against the land, and the land can be sold to pay the taxes, if delinquent. What taxes are liens and how they may be collected is a matter of statute.

In Arkansas, like most states, those furnishing labor or materials for the repair or improvement of realty are given various types of ***mechanic's liens*** on the real estate so repaired or improved for the various services and materials furnished. These liens can be foreclosed and the property sold in the manner provided by statute to satisfy the debt. By statute, mechanic's liens, also known as miner's liens, are extended to the development of the mineral estate.

H. MINERAL AND TIMBER SEVERANCES

Frequently, minerals, timber, or soil is sold separately from the land. There are three basic types of these transfers:

(a) So-called *leases.* These are actually a right to remove the minerals or timber and pay for it upon removal, together with a right of ingress and egress. These may be either an easement or a license to cut and remove. These are terminable upon cessation of the operations or after a stated period of time.

(b) *Mineral Severances.* These are actually an outright sale of the minerals in place. It does not cease by lapse of time. It is accompanied by an irrevocable easement to remove.

(c) *Space Severance.* It is possible to make an outright sale of a definite area of space underneath the surface. The owner of this space has the right to continue to use it for storage after the minerals have been removed.

I. AIR SPACE

In recent years, outright sales of space above the surface of the earth have been recognized. This is quite common through the medium of "condominiums," which is actually the sale of certain designated space in buildings. Also coming into vogue is the sale of air space together with the right to erect structures in such space with footings on the ground.

J. CO-OWNERSHIP OF LAND

At common law, whenever there was a grant to several named individuals, they took as *joint tenants with right of survivorship.* Any one joint tenant could, in his lifetime, sell his undivided share and convert the joint tenancy into a tenancy in common, but if a joint tenant died still owning his undivided share, then his share passed by right of survivorship to the other joint tenants, and he could not devise it by Will to a third party, nor would it pass to his heirs. Under Arkansas law a joint tenancy with right of survivorship is not presumed unless the document states that it is the intention to create such a tenancy.

A grant to several persons creates a *tenancy in common,* which also existed at common law. In a tenancy in common, the ownership, while held by several persons, is not held jointly. Any tenant can sell his undivided interest and, upon the death of any one tenant in common, his share passes to his heirs or to his devisees and not to the other joint tenants. Under Arkansas law, except as to a conveyance to husband and wife, a tenancy in common is to be presumed unless the conveyance states otherwise.

In a third type of tenancy where property was conveyed or devised to a husband and wife, they held as *tenants by the entirety.* Following the common law, neither of the tenants can devise their interest. The husband and wife are treated as one and, when one dies, the other survives as the sole owner. A tenancy by the entirety could only be conveyed by joint action of the parties in granting a deed, or by divorce. Neither party could Will away his share. Divorce destroys a tenancy by the entirety, and the former spouse becomes a tenant in common.

K. LOSS OF RIGHTS TO AND INTERESTS IN LAND

Both rights to land and interests in land may be lost in a variety of ways. Actual ownership may terminate through the ending of the estate if it is a defeasible fee or a life estate. A fee or a life estate may also be lost through adverse possession, prescription, or by a taking by eminent domain.

Leaseholds may be lost by abandonment or through default by the lessee of the conditions of the Lease.

Rights to land, such as easements, licenses, or equitable servitudes, may be lost through abandonment, prescription by the owner, or sometimes by changes in conditions that no longer warrant the conditions imposed. Sometimes these conditions may terminate through *partial performance* over a long period of years.

III. SURVEYING AND BOUNDARIES

A. ORIGIN OF SURVEYS

By adoption of the Constitution of the United States, all property located within the original colonies became the property of each state, therefore, there was no public land within the boundaries of the thirteen original colonies.

All property of the thirteen colonies was described by "metes and bounds." The description usually ran from the foot of some mountain or the mouth of some stream or a river bank and, in many cases, commencing at a tree or a stump.

B. METES AND BOUNDS

A survey of a tract by metes and bounds is the oldest known manner of describing land and is the outgrowth of the art of surveying as practiced in olden times. It consists of running out tracts of land by courses and distances and planting monuments at the several corners or angles. The planting of permanent monuments at each angle is of paramount importance. The description of property by "metes and bounds" means little to the layman, is difficult to verify and prone to error. For this reason, doubtless surveyors inaugurated the rectangular system which is in force largely in those States lying west of Pennsylvania and in western Canada.

Owing to the variation of the magnet needle, the stretching of chains and tapes used in making surveys, the condition of the weather, and the difference in chainmen, it is exceedingly difficult to retrace obliterated or lost lines of such boundaries unless at least one of the lines can be identified. If the surveyor can find one of the sides of the tract, he can adjust his instrument and chain or tape to correspond with those used in the prior survey or he can locate the other lines and corners by proportional measurements.

The surveyor, in retracing a former metes and bounds survey, often faces a difficult task. In the early days, beginning points as well as corners were usually artificial landmarks not always of a permanent character. Trees, posts, stumps, bends in rivers, etc., are likely to disappear over the years, and seldom were live monuments or witness monuments used. The surveyor's notes were also often faulty or nonexistent, and the chains were worn or inaccurate.

Later, as additional lands were acquired, the government found it necessary to prepare for sale or settlement of various tracts known as public lands. These public lands had to be surveyed into smaller tracts suitable for sale or allotment as homestead. In 1785, at the suggestion of Thomas Jefferson, the Continental Congress established the unit of measurement to six square miles. These new units were called *Townships*, and the sections were numbered from 1 to 36, commencing at the southeast corner, numbering to the west and then back to the east.

C. THE RECTANGULAR SYSTEM

In 1805, the present system, known as the *Rectangular System,* was adopted. This system was first used in the Northwest Territory and most of the territory west of the Mississippi River, except Texas, was surveyed in this manner. The surveying of all public lands was done by the General Land Office of the government. Since 1946, this has been known as the Bureau of Land Management.

The descriptions of land and plats of the original surveys filed in the General Land Office, as made from the field notes by the Surveyor General, now the Chief Cadastral Engineer, are conclusive, and the section lines and corners as laid down in the descriptions and plats are binding upon the government and upon all parties concerned.

Before the United States conveys lands, it may make as many surveys of a tract of public land as it desires and the last accepted survey will control. Where the government has made more than one survey, it may use either survey in the patent.

A private individual cannot correct an erroneous federal survey. Official government surveys cannot be subject to question in a suit brought between private parties. Errors in the location of corners of governmental subdivisions cannot be corrected by the Court. The location of corners and lines by government survey is conclusive.

The Congress of the United States, by Federal statute, established a system for the surveying of public lands and the boundaries and limits of the sections and subdivisions thereof must be determined in conformity with those guidelines. Errors of location, once established, cannot be corrected by the courts or by a surveyor who is employed by the court to locate government corners or lines.

Private individuals in a suit between themselves may not question the accuracy of a confirmed federal survey. A government survey creates, not merely identifies, sections and boundaries of land. When lands have been disposed of by the government according to a line appearing on an official plat of a government survey approved by the Surveyor General, the location of the line shown on the official plat is controlling. Government corners mark the true boundaries of a party holding under a government patent based on a government survey.

In making a survey by the *Rectangular System,* it is necessary to have a *starting point* and from such point, a line is run due North to the North boundary line of the State, District, or Territory to be surveyed. This North and South line is known as the *Prime* or *Principal Meridian.* There is likewise established a *Base* line running East and West at approximately right angles to the Prime or Principal Meridian line.

Lines are next run North and South parallel with the Prime Meridian. Beginning at the Principal Meridian, these lines mark the country off into strips of land six miles wide. Each strip is known as a *Range.* Ranges, either East or West, are numbered from the Principal Meridian.

After the Range lines are run, the East and West lines are established. The first line so run is called the *Base* line. All East and West lines cross the Meridian at right angles. Every six miles contains East and West lines which run parallel with the Base line, cutting the Ranges into Sections known as *Congressional Townships,* but referred to simply as *Townships.* All Townships are numbered commencing with the number 1, both North and South of the Base line.

Owing to the curvature of the Earth's surface, lines extending toward the magnetic pole become closer together. All Townships are narrower at the North side than on the South side, the North end being approximately three rods or 49.5 feet narrower than the South end.

In order to keep these lines as near six miles apart as possible, usually every 24 miles North from the Base line a stop or correction line is established, known as a *Standard Parallel* (or Correction Line). Guide meridians are likewise established at intervals of usually 24 miles. The survey is again moved over so that the North and South lines will be six miles apart.

After the establishment of a Meridian and a Base line, and after Townships have been formed, it is then necessary to survey and number each Township into 36 *Sections,* containing approximately 640 acres each. These Sections are numbered from 1 to 36 commencing with number 1 at the Northeast corner of the Township and numbered to the West and then back East.

All Sections cannot contain 640 acres because of the Earth's curvature hereinbefore mentioned, because of the impossibility of absolute accuracy in surveying, and because the lines surveyed are not always parallel. Accordingly, a Township of more or less than 36 exact Sections containing 640 acres each is produced. To take care of this discrepancy, the Sections on the North and West side of the Township contain an irregular number of acres and are known as *Fractional Sections.* Therefore, we usually have a Township with 25 full sections and 11 Fractional Sections.

The 11 Fractional Sections of a Township, where Fractional Sections are caused by the curvature of the Earth's surface and inaccurate surveys, are Sections 1 through 6 along the North side of the Township, and Sections 7, 18, 19, 30 and 31 along the West side of the Township. There is never a Fractional Section caused by the curvature or inaccurate survey any place except along a Township or Range line. In very few exceptional cases, it may happen that Fractional Sections will border on the South or East side of a Township -- this, however, is extremely rare.

As Sections 1 through 6 contain more or less than 640 acres, they are surveyed to make 320 acres in the South half. The North half is then divided so that the South half of the Northeast Quarter and the South half of the Northwest Quarter of those sections will each contain 80 acres. The remaining strip of land along the North side of the Section is then divided into four lots, each given a number; the acreage of each lot always being 40 acres, more or less, and ascertained by the Land Office. The Northeast lot is numbered 1 and the remaining lots are numbered 2, 3, and 4, running to the West.

In Sections 6, 7, 18, 19, 30, and 31, the surplus or deficit acreage is placed in the West half of the Section along the West line of the Township, and divided in the same manner as though it were along the North line of the Township, except the Northwest lot is numbered 1, and the remaining lots are numbered running to the South. Section 6, lying in the extreme Northwest corner of the Township, would, therefore, contain lots both along the North side and the West side.

It has always been the rule of the surveyor to survey and establish as many 80 acre tracts as possible or practical in each Section. Generally, a section is the smallest subdivision actually surveyed by the government surveyors, and at each Section corner is a marker known as a *Monument of Survey.* Sections, however, are divided into Quarter Sections containing 160 acres, etc., which will be discussed later under ***Descriptions.***

Fractional Sections cannot be described in the same manner as a *Full Section.* Townships bordering on or containing Indian or Timber Reservations, National Parks, Townships, Lakes, or Rivers, may contain Fractional Sections caused by such reservation, lake or river taking out of the Public Lands irregular tracts and uneven acreage.

Perhaps the most pronounced or noticeable number of Government Lots occur along a river -- many times a quarter section will contain as many as 12 or 18 lots -- varying in size from a fraction of an acre to 40 acres, more or less.

Where lots occur along a river, occasionally such lots have been surveyed and designated as *Lot No. __ on the North Bank,* the *South Bank,* the *East Bank,* or the *West Bank* of such river. This is caused by two different groups of surveyors working on the Survey -- one group at one time on one side of the river, and the other group later on the other side of the river.

The Meander Line: A meander line is a guide line which runs along a stream or body of water for the purpose of establishing the course of the bank of such stream or body of water, to procure data with which to plat fractional sections (Government Lots), and to compute the area thereof.

The acreage of Government Lots is not computed by the surveyor *on the ground* and such guide line is very essential and necessary for this purpose.

Quite often you encounter a description which follows the *Meander* of a stream, merely meaning *a general direction along a meander line. A* Meander line has been held not to be a boundary line but merely a guide line.

The general rule of the Land Department is to establish this Meander line at *Mean High Water Mark,* meaning, according to some Court decisions, to be a line which lies beyond the part washed free from vegetation.

The river bed of a non-navigable stream is presumed to belong to the adjacent property owners (called a *riparian* owners), and if the course of the river changes and the change is gradual, the *riparian* owner follows the stream in its change. In other cases, where a water line is a boundary of a tract of land, that water line remains the boundary no matter how it changes by accretion, and a deed describing the land as a certain lot by number conveys the land up to the ever-changing line of the stream or lake. The water line continues the boundary line and the deed carries the accretion. This is the general rule, but there are some apparent exceptions. One exception to this general rule is a change by way of an avulsion -- an avulsion being a sudden and perceptible change in the course of a river or stream.

D. DESCRIPTIONS

A description is a statement of the land involved in a real estate transaction. Every description should be definite enough

to permit the surveyor to accurately locate the property described from the description itself without referring to the boundary line of any other piece of property and should be so clearly set out that there will be no doubt whatsoever as to the exact location of the property intended to be described.

The main object of a description is to furnish means of identification, and when the description is sufficient to enable the surveyor to locate the property with absolute certainty, it is a sufficient description.

A description of a tract or parcel of land included in a plat or a government or artificial survey, where possible, should always include the words *according to the recorded plat thereof* or *according to the official Government survey thereof.* When this is done, the plat or official survey actually becomes a part of the description, with reference to location, notes, lines, land marks, monuments, etc., as complete as if the plat, survey, field notes, etc., were actually incorporated into the deed itself. It sometimes happens that errors are made in plats, and when this happens, the actual survey takes precedence if there is a conflict between the plat and the survey.

The following table will be very helpful when checking or preparing descriptions:

1 Link	=	7.92 inches
1 Rod	=	16.5 feet
1 Chain	=	66 feet or 4 rods or 100 links
1/2 Mile	=	2,640 feet or 40 chains or 160 rods

1 acre contains 43,560 square feet
1 acre is approximately 208 3/4 feet square

The length and breadth of a 640 acre tract (one regular governmental section) is 5280 feet or 80 chains or 320 rods

The length and breadth of a 160 acre tract (one regular governmental quarter section) is 2640 feet or 40 chains or 160 rods

The length and breadth of a 40 acre tract is 1,320 feet or 20 chains or 80 rods

The length and breadth of a 10 acre tract is 660 feet or 10 chains or 40 rods

The width of a 2.5 acre tract would be 330 feet or 5 chains or 20 rods

Generally, descriptions may be classified in the following four ways:

First: A *Rectangular* or *Government Survey* description being a subdivision of a section of a government lot located within a subdivision of a section and often referred to as a *Farm Land* description.

Second: *Lot and Block* descriptions which are according to a plat or map. The quantity or size of the tract conveyed is determinable only by reference to some map or plat which may or may not be recorded.

Third: *Metes and Bounds* descriptions -*Metes* are measures of length (inches, feet, yards, rods, chains, and/or links) and determine a certain quantity of land, such as square feet, square rods, acres, etc. *Bounds* are boundaries both natural and/or artificial, and confine that quantity of land within certain fixed limits. Hence, the use of the statement by *metes and bounds* has the meaning of limitation, that is, it fixes definitely the contents and the limits of a piece of land.

Angles: This is probably the most confusing part of descriptions as few persons clearly understand the angle or the direction of lines. Angles are used in descriptions where the lines do not run due North, South, East, or West. Such angles are measured by degrees, minutes and seconds, and are divisions of the circumference of a circle containing 360 degrees. Each degree contains 60 minutes and each minute contains 60 seconds. Even though we frequently encounter minutes and seconds in descriptions, they are of such small variance that they are of little importance to title men in the drawing of a metes and bounds description. Therefore, we shall deal only in degrees. By dividing a circle in four equal parts, by two lines running in opposite directions, we make four right angles.

Fourth: *Description by Monument,* which may also, at least partially, include a metes and bounds description. A monument may be defined as a "landmark which is used for the purpose of indicating a boundary of a parcel of land." It may be either natural or artificial. *Natural Monuments* are rivers, lakes, streams, trees, mountains, rocks, and/or springs. *Artificial Monuments* are landmarks or signs erected by human means, such as a fence, wall, house, street, alley, post, stakes, canal, or a drainage ditch.

IV. THE NATURE OF THE MINERAL ESTATE

A. MINERAL INTERESTS

Minerals can be severed from the surface estate by either grant or reservation and when severed become subject to separate ownership. *Segars v. Goodwin,* 196 Ark. 221, 117 S.W.2d 43 (1938). A Mineral Deed placed of record constitutes a "constructive severance" of minerals from the surface and creates two (2) titles, one to the surface and the other to the minerals. *Schnitt v. McKellar,* 244 Ark. 377, 427 S.W.2d 202 (1968). Further, the sale of an undivided mineral interest operates as a severance, creating two (2) distinct estates.

Like most other undivided interests in real property, the owner of an undivided mineral interest is entitled to partition. Arkansas Code Section 15-73-404 to 409 (1987) (upheld by *Overton v. Porterfield,* 206 Ark. 784, 177 S.W.2d 735 (1944), when attacked as a denial of due process). A leasehold interest is not subject to partition under Section 15-73-401 through 409 of the Arkansas Code. *Pastuer v. Niswanger,* 226 Ark. 486, 290 S.W.2d 852 (1956).

The owner of the mineral interest has several important and distinct rights, to-wit: (1) the right to develop the minerals; (2) the executive right (right to lease the minerals); and (3) the right to convey an interest to others, either as an undivided mineral interest or as a royalty interest. *See generally* Wright, *Arkansas Law of Oil and Gas, 9* UALR Law Journal 223 (1986-87) (hereinafter *Wright).* The executive rights can be severed from the mineral estate. This is usually done by a reservation of the right to execute leases and receive bonus and delay rentals.

The owner of the mineral estate has an easement of reasonable use of the surface for the purpose of developing the minerals. *Diamond Shamrock Corp. v. Phillips,* 256 Ark. 886, 511 S.W.2d 160 (1974). An owner of minerals has a right of ingress and egress to his wells "but in exercising that right 'it was his duty to do so in the manner least injurious to his grantor.'" Theoretically, there is no liability to the surface owner for reasonable use of the surface. However, the surface owner rarely concedes that the mineral owner's use is reasonable or that the surface owner is not entitled to be compensated for the drilling operations.

In *Bond v. Sanchez-O'Brien Oil and Gas Company,* 289 Ark. 582, 715 S.W.2d 444 (1986), the Arkansas Supreme Court held that the lessee of an oil and gas lease has an implied duty upon termination of production or upon drilling of a dry hole to restore the surface of the land as nearly as practicable to the same condition as it was prior to the drilling. In this particular case, the surface of the land had been sold to a subsequent purchaser whose predecessor in title had executed a release of all damages to the drilling contractor. The surface owner, after executing the release to the operator of all damages to the surface estate, sold his surface estate to a third party who recorded his deed before the operator recorded his release. The Court found the purchaser to be a purchaser for value without notice of the unrecorded release and was entitled to recover damages from the operator upon the latter's failure to restore the premises upon abandoning operations.

In *Fox v. Nally,* 34 Ark. App. 94, 805 S.W.,2d 661 (App. 1991), the Arkansas Court of Appeals permitted the landowner who had executed an oil and gas lease in favor of Diamond Shamrock to recover damages for the temporary injury to real property despite the fact that the lease express permitted the installation of pipelines and that the landowner had subsequently executed a "Surface Use Agreement and Damage Release." The evidence reflects that the landowner was paid $3,000 for the execution of the "Damage Release" but the trial court still awarded the landowner an additional $600 for temporary injury to the land because the operator breached his duty to restore the property to the same condition that it was in prior to the injury.

In light of the *Fox* and *Bond* decisions, it is our advice that every such release be in recordable form and be placed of record immediately in the County in which the lands are located. Such Release should expressly waive the necessity to restore the surface to the condition it was in immediately prior to the commencement of the drilling operations.

Two statutes, Section 15-72-213 and Section 15-72-214 of the Arkansas Code, grant the surface owner certain liens or claims against the operator for damages caused by the operator's neglect. This lien attaches to the fixtures, equipment, oil, gas, and production which may run to the credit of the operator to secure payment for all damages that can be lawfully recovered under the terms of the oil and gas lease(s) covering the particular property. Accordingly, it is suggested that any operator contemplating development document the condition of the surface location by photographs. Such photographs should be taken both before and after the drilling operations.

(a) The *Strohacker Doctrine* -Defining "*Minerals*"

The *Strohacker* Doctrine comes from a case decided by the Arkansas Supreme Court in 1941, *Missouri Pacific Railroad Co. v. Strohacker,* 202 Ark. 645, 152 S.W.2d 557 (1941). The Doctrine says that the term "minerals" in a grant or reservation will include only those substances "commonly recognized as minerals" at the time and location of the execution of the deed. A current example of *Strohacker* is whether or not the word "minerals" in an 1989 reservation in Scott County, Arkansas, would included oil and gas.

While the intent of the parties is the key in ascertaining the effect of a conveyance, the courts in Arkansas determine such intent by use of the *Strohacker* Doctrine. The actual subjective intent of the grantor will not be given effect and the court will look at "the general legal or commercial usage of the word at the time and place of its usage." *Stegall v. Bugh,* 228 Ark. 632, 310 S.W.2d 251 (1958). *Strohacker* is a rule of property law in Arkansas and the courts will not use a different approach in determining the meaning of the word "minerals."

(b) The *Duhig* Rule

Professor Richard W. Hemingway in his treatise, *The Law of Oil & Gas, p.* 116 (1983) defines the *Duhig* Rule as:

Where a grantor conveys an interest in the minerals and in the same instrument reserves a mineral interest, and where there is a prior interest outstanding that is not excepted from operation of the deed, so that effect may not be given to both the interest that grantor has purported to convey and the interest grantor has attempted to reserve . . . the grantee is not limited to a suit in damages for failure of title, but the attempted reservation will fail to the extent necessary to make the grantee whole.

The rule arose from *Duhig v. Peavy-Moore Lumber Co.,* 144 S.W.2d 878 (Tex. 1940), a case involving a warranty deed. Simply put, the *Duhig* Rule prohibits a grantor from agreeing to warrant and defend title to a property interest and then in the same instrument reserve to himself some portion of that same property interest. For example, suppose A deeds land to B reserving a 1/2 interest in the oil, gas, and minerals. B then conveys the land to C by warranty deed which recites that B reserves a 1/2 mineral interest in himself but which does not except the 1/2 mineral interest outstanding in A. What does C have? Under *Duhig,* B cannot reserve to himself what he has granted to C, and C will get the surface plus 1/2 of the minerals while B retains no interest in the property.

Arkansas has two (2) recent decisions on the *Duhig* problem. The first, *Hill v. Gilliam,* 284 Ark. 383, 682 S.W.2d 737 (1985), states that Arkansas will not apply the *Duhig* rule to quitclaim deeds. A few months later, in *Peterson v. Simpson,* 286 Ark. 177, 690 S.W.2d 720 (1985), the Arkansas Supreme Court held that *Duhig* would apply only to warranty deeds and then only where the parties were not parties to the original deed.

In view of *Hill* and *Peterson,* the status of the *Duhig* rule in Arkansas can be stated as follows: The Rule applies to warranty deeds when the immediate parties to the deed are not involved in the dispute.

B. LEASEHOLD INTERESTS

The rule in Arkansas, prior to 1982, was that a leasehold interest (that interest held by a lessee) was in the nature of an easement. The Arkansas Supreme Court held in 1965 that an "oil and gas lease does not of itself constitute constructive severance of the two estates (surface and mineral), but conveys only an interest and easement in the land itself and no title passes until the oil and gas are reduced to possession." *Garvan v. Kimsey,* 239 Ark. 295, 297, 389 S.W.2d 870 (1965). Thus, the lessee has no title to the minerals until they are actually in his possession.

The Arkansas court seems to have abandoned the view that leases grant only an easement. In *Hillard v. Stephens,* 276 Ark. 545, 637 S.W.2d 581 (1982), in discussing a gas lease the court stated "The gas lease constitutes a present sale of all the gas in place at the time such lease is executed; and as the gas leaves the well head, the entire ownership thereof is in the lessee . . . ."

Where the leasehold interest (working interest) in a common lease or mineral venture is owned by multiple parties under a joint operating agreement, the designated operator has a "fiduciary duty" to the non-operators. *Texas Oil & Gas Corporation v. Hawkins Oil & Gas, Inc.,* 282 Ark. 268, 668 S.W.2d 16 (1984). A fiduciary is a person who undertakes to act in the interest of another person. As a fiduciary, the operator in an oil and gas prospect, has a duty of utmost fair dealing and good faith to the non-operators. The operator may not act selfishly or in his own best interest.

C. ROYALTY INTEREST

In Arkansas, as elsewhere, a royalty interest is a right to a share of the mineral produced accruing to the owner of the royalty. The royalty interest before production is part of the land and, therefore, subject to conveyance but becomes personal property when produced. *Shreveport-EI Dorado Pipe Line Co. v. Bennett,* 172 Ark. 804, 290 S.W. 929 (1927). The royalty owner typically has no right to explore or develop minerals, or to execute leases. A conveyance reserving to the grantor the right to execute oil and gas leases and receive a bonus for execution generally creates a non-participating royalty interest in the grantee. In most instruments, it is entitled "Non-Participating Royalty Deed."

Frequently, conveyances in Arkansas are entitled "Warranty Deed -- Royalty," "Sale of Royalty in Oil and Gas Lease," "Royalty Deed," "Mineral Deed-Royalty," and many, many others. Most such instruments contain a granting clause similar to the following:

> grant, bargain and sell to grantee, his heirs and assigns [some fractional interest] of all minerals in and under the described tract of land.

The instrument then contains further language indicating that the grantee is entitled to royalty under the deed, or will refer to a certain number of "royalty acres." The Arkansas courts look to the four corners of the instrument to determine what was intended by the parties but, generally, the granting clause prevails, and if there is no mention of royalty in the granting clause, it should be treated as a conveyance of minerals.

The words "in and under" the described lands will usually be construed to refer to minerals in place rather than royalty interests. Consider the following granting clause:

"one-eighth [sic] (being all the Royalty retained by us) undivided interest of, in, and to all the oil, gas, and minerals on, in and under the . . . lands . . . granting to said [grantee] . . . the right of ingress to and upon said lands for the purposes of securing, storing, and removing oil and gas."

In *Wynn v. Sklar & Phillips Oil Co.,* 254 Ark. 332, 493 S.W.2d 439 (1973), the Arkansas court held that the above was a grant of minerals not royalty. Despite the language mentioning "Royalty", the court held that "in and under" generally refers to minerals in place. Care should be taken in interpretation of the granting clause in that many variations exist. If the granting clause recites "royalty acres", "royalty interest", "R.A.", or "R.I.", the estate granted is generally interpreted as a conveyance of royalty as opposed to minerals, even though the instrument is silent as to the right to lease and receive a bonus.

V. METHODS OF ACQUIRING MINERAL INTERESTS

A. DEEDS

As stated previously, the mineral estate can be severed and conveyed or reserved separate and apart from the surface estate. The transfer of a mineral interest can be by conveyance in a deed, or the mineral interest can be created by reservation or exception in a deed.

B. TESTAMENTARY DISPOSITION - BY WILL

Real property, including interests in oil, gas, and minerals, may be devised by Will in Arkansas. There are several pertinent things to look for in examining a testamentary disposition.

(a) Formalities of the Will:

Generally, a person must be 18 years of age to make a Will. Arkansas Code Section 28-25-101 (1987). The Will must be signed by the testator and at least two witnesses. *Id.* at Section 28-25-103. If a witness has an interest in the Will then there must be two disinterested witnesses as well, otherwise the interested witness forfeits the provisions of the Will in his favor. *Id.* at Section 28-25-102. The testator must declare to the attesting witnesses that the Will is his and must sign the Will in their presence or acknowledge his signature. *Id.* at Section 28-25-103.

A person can execute a holographic Will, one written solely in the testator's handwriting, and such can be established by testimony of three disinterested witnesses who can identify the handwriting and signature of the testator. *Id.* at Section 28-25-104.

(b) Will Contests:

A contest of a Will offered for probate is subject to time limitations. For a contest based on the existence of a valid, more recent Will, the contest must be brought before final distribution and within five (5) years of the testator's death. A contest based on any other grounds must be brought at or before the hearing of a petition for probate if the contestant has been given notice other than by publication. Ark. Code. Ann. Section 28-40-113. In other instances where the contestant has not received notice of hearings, he has three (3) months after admission of the Will to probate in which to file his contest. In any case, the contest must occur within three (3) years of admission to probate.

When an oil or gas interest is acquired from the personal representative of the estate or of a distributee <u>prior to</u> the filing of a Will contest, the purchaser shall take such interest free and clear of any rights of a person interested in the estate. *Id.* at Arkansas Code Section 28-40-115. So long as the purchase occurred prior to a contest and was made for value, the purchaser is protected under Arkansas Code Section 28-40-115.

(c) Wills of Non-Residents:

The Will of a non-resident is not made effective simply by filing for record in Arkansas. It is necessary that the Will of a non-resident be admitted to probate in Arkansas by filing a

Petition with an authenticated copy of the Will and the entry of an Order Admitting Will to Probate entered by a Court of competent jurisdiction. Notice of such filing is required. Arkansas Code Section 28-40-102.

C. INTESTATE SUCCESSION

The estate of a person who dies on or after January 1, 1970, without a Will or with an invalid Will will be distributed under Section 28-9-214 of the Arkansas Probate Code as follows:

First: To the children of the intestate or the descendants of the children who predecease the intestate. They take subject to the dower or curtesy of a surviving spouse (discussed *infra).* All members of a class of equal degree of relation take per capita (i.e., all children get an equal share) while grandchildren or great grandchildren will take per stirpes (by representation).

Second: (only as to intestate successions occurring on or after January 1, 1970) To the surviving spouse where the intestate died without descendants. If the marriage was for more than three years or longer, the survivor would inherit the entire estate. If for less than three years, the spouse's share is one-half of the intestate estate. In either situation, the surviving spouse's dower or curtesy and homestead claims are superior to the claims of creditors.

Third: (only as to intestate successions occurring on or after January 1, 1970) If the intestate left no descendants or surviving spouse, or where the survivor had been married to the intestate for less than three years, the remainder of the estate would pass as follows:

(a) To the intestate's parents equally, or to the surviving parent;

(b) If neither parent survives, to the intestate's surviving brothers and sisters, and to the descendants of the deceased brothers and sisters, taking per capita or per stirpes according to Sections 28-9-204 and 205 of the Arkansas Code;

(c) To surviving grandparents, uncles, and aunts equally, and to the descendants of any uncle or aunt predeceasing the intestate;

(d) To surviving great-grandparents and great-aunts and great-uncles, and to the descendants of any great-aunt or great-uncle predeceasing the intestate;

(e) To surviving spouse if the marriage was for less than three years;

(f) If there is no surviving spouse, then to the heirs of the deceased spouse of the intestate (meaning the spouse to whom the intestate was last married); but the heirs of a divorced spouse may not inherit; and,

(g) If none of the above is applicable, the estate shall escheat to the County where the intestate resided at death.

For the purpose of intestate succession, on or after January 1, 1970, the distinction between real estate acquired by purchase and that acquired by gift or inheritance from some ancestor is abolished by Arkansas Code Section 28-9-219; all real estate of an intestate is treated the same whether acquired by gift, devise, or descent from an ancestor, or by some other means (except for the purposes of dower and curtesy).

Prior to January 1, 1970, intestate succession was:

First: To the children of the intestate or the descendants of the children who predeceased the intestate.

Second: To the intestate's parents equally for life or to the parent from which the estate derived;

Third: To the intestate's brothers and sisters or the descendants of brothers and sisters who predecease the intestate; and,

Fourth: To the surviving grandparents, uncles, and aunts, and to their descendants per capita or per stirpes.

D. ADVERSE POSSESSION

Prior to 1983 adverse possession in Arkansas required possession which is open, notorious, peaceful, continuous, adverse, and hostile to the record owner for more than the statutory period. *Jeffery v. Jeffery,* 87 Ark. 496, 113 S.W. 27 (1908). The general period of limitations in Arkansas for adverse possession is seven years. Arkansas Code Section 18-61-101. If the claim of ownership is made under a tax deed, Ark Code Ann. Section 18-61-106 provides a two year period in which the owner must initiate a cause of action to obtain possession of the lands sold under a donation deed from the State. Effective as of 1983, A.C.A. 18-11-106, requires the payment of ad valorem taxes in addition to the seven years of adverse possession.

As to the adverse possession of the mineral estate, there are no Arkansas decisions directly on point. The rule appears to be that adverse possession of the surface estate will constitute adverse possession of the minerals where the mineral estate has not been severed. See, e.g., *Buckner v. Wright,* 218 Ark. 448, 236 S.W.2d 720 (1951). Where the minerals are severed from the surface estate, the adverse possession claim can only result from the opening and operating of mines; if mining continues for the statutory period, title may ripen therefrom. See *Taylor v. Scott,* 285 Ark. 102, 685 S.W.2d 160 (1985); *Bodcaw Lumber Co. v. Goode,* 160 Ark. 48, 254 S.W. 345 (1923). The leasing of minerals without actual drilling or mining activity does not constitute adverse possession. *Adams v. Bruder,* 275 Ark. 19, 627 S.W.2d 12 (1982). Further, the drilling of a well on one tract of land within a lease does not constitute constructive possession of mineral rights in other tracts within the same lease.

One unanswered question in Arkansas is whether an adverse claimant of one mineral has adverse possession of all minerals. In *Hurst v. Rice,* 278 Ark. 94, 643 S.W.2d 563 (1982), the court held that an adverse possessor of gas, though receiving fifteen years of gas royalties, could not also claim to be the adverse possessor of all coal rights. *Hurst* carefully pointed out, however, that it was not intended to decide that adverse drilling or producing of one mineral could never be adverse as to other minerals.

To ripen title to royalty, an adverse claimant must openly, notoriously, and adversely claim and receive payments accruing to the royalty interest adversely claimed. *Warmack v. Henry H. Cross Co.,* 237 Ark. 869, 377 S.W.2d 47 (1964).

The case of *Taylor v. Scott,* 285 Ark. 102, 685 S.W.2d 160 (1985), held that when mineral ownership has been severed by deed from the surface ownership, adverse possession of the surface is ineffective against the owner of the minerals unless the possessor actually invades the minerals by opening mines or drilling wells and continues that action for the necessary period. In *Taylor,* the deed from the owner of record title conveying an undivided interest in the minerals was not recorded until almost twenty years had passed. In the period between the execution of the mineral deed and the recordation of the mineral deed, a third party went into adverse possession of the land and claimed that he had acquired a limitation title to the land, both surface and minerals. In *Taylor,* the court gave effect to the prior mineral deed even though it was not recorded until many years after limitation title to the surface had been perfected.

When a break in the title is evident due to a failure of a party to record a deed, or by title that has been created or claimed through adverse possession, it is possible that a subsequent filing of a mineral deed, as in the *Taylor* case, could change the mineral ownership at a time subsequent to the time of a title check. In 1990, the Arkansas Supreme Court extended the ruling in the *Taylor* case in *Witt v. Graves,* 302 Ark. 160, 787 S.W.2d 681 (1990), when it affirmed the findings of the trial court which found the execution of "lost deed" which contained a mineral severance It is virtually impossible to foreclose the risk of a *Taylor* or *Witt* late filer. The only "solution" to this problem is to put one on notice that such may occur wherein there is a break in the chain of title.

E. TAX TITLES

Where land is unimproved and unenclosed, the person who pays taxes thereon and has color of title is held to be in possession thereof if he timely pays the taxes for seven consecutive years. Arkansas Code Section 18-11-102. Payment of taxes on wild and unimproved land for a period of fifteen consecutive years creates a presumption of law that the person, or his predecessor in title, held color of title to the land prior to the first payment of taxes and that all tax payments were made under color of title. Arkansas Code Section 18-11-103. If the title to the minerals is severed, then the payment of the taxes by the owner of the surface estate does not amount to possession of the minerals. *Claybrooke v. Barnes,* 180 Ark. 678, 22 S.W.2d 390 (1929). Even where a claimant buys a tax deed to a mineral estate and pays taxes on that estate, that claimant does not gain color of title because there was never actual possession of mineral rights. *Garvan v. Potlatch Co.,* 278 Ark. 414, 645 S.W.2d 957 (1983). The presumption of color of title where the claimant has timely paid taxes for fifteen consecutive years does not apply to minerals, as the statute states, "wild and unimproved land." "Minerals within the earth are not susceptible of enclosure." *Burbridge v. Rosen,* 240 Ark. 500, 400 S.W.2d 502 (1966).

Care should be taken when ascertaining the validity of a tax title, particularly of a tax title to a mineral interest. It is a common practice in Arkansas that invalid descriptions are generally used by the tax assessor. If such descriptions are not sufficient to clearly describe and identify the lands, then such description is fatal to any tax title. Generally, the invalid description is a "part" description reading "part of a governmental quarter-quarter section, 8 acres", or the abbreviation for part, such as "pt."

A mineral interest that has been severed is subject to separate assessment. The decisions of the Arkansas Supreme Court indicate that for a separate assessment of the minerals to be valid it must be "subjoined" to the surface assessment. The definition of "subjoined" has been defined in recent decisions in Arkansas, and it is defined as being attached immediately to the surface assessment. An example of such assessment would be a surface assessment of a governmental quarter-quarter section and a one-half (1/2) mineral interest and immediately following that particular assessment would be an assessment of the remaining one-half (1/2) mineral interest. It was the practice of assessors in the various counties wherein severed mineral interests were assessed to not "subjoin" the mineral assessment. They were generally contained in a separate book, or if not in a separate book, the mineral assessments followed the complete assessment of all surface assessments. To determine the validity of a tax title it must be determined that the assessment met the legal requirements for assessing severed mineral interests at the time of the assessment. This requires an actual review of the assessment records of the county for the year or years in which the forfeiture of the severed mineral interest occurred.

A lien of a tax forfeiture for properly assessed minerals can preempt a subsequent conveyance to the surface and minerals or the minerals alone. If a tax delinquency occurs in a certain year and subsequent thereto the surface interest owner conveys an undivided mineral interest to the third party, the conveyance is subject to the lien created by the tax delinquency. Thereafter, the land is forfeited to the State for taxes, and a third party purchases such interest at a tax sale. The lien attached prior to the conveyance of the undivided mineral interest and, therefore, could divest the ownership of the grantee of the undivided mineral interest.

Effective July 16, 2003, Act 1279 of the 2003 Acts, now codified at A.C.A. § 26-37-314 entitled ***"Sale of tax delinquent severed mineral interests prohibited"*** now provides that only the owner of the surface shall be permitted to purchase the tax delinquent severed mineral interests. The surface owner purchasing mineral interests under this section shall be allowed to purchase the mineral interests for an amount equal to the delinquent taxes and shall not be required to pay any interest or penalties if the surface owner was not the owner of the mineral interests at the time the taxes became delinquent. The new legislation specifically provides that no deed issued under this Act shall be void or voidable on the ground that the assessment of the property taxes on the severed mineral interest was not subjoined to the assessment of the property taxes on the surface realty. Many Arkansas title examiners consider Act 1279 as unconstitutional but as of yet no appellate court has invalidated this Act.

F. DOWER AND CURTESY

Generally in Arkansas a surviving spouse is entitled to a dower or curtesy (hereinafter "dower") interest of a 1/3 life estate in all realty if the deceased spouse left descendants. Arkansas Code Section 28-11-301. Arkansas also has specific statutes dealing with dower rights as they relate to oil and gas leases. Arkansas Code Section 28-11-304 states:

. . . the surviving spouse shall be entitled, absolutely and in his or her own right, to one-third (1/3) of all money received from the sale of timber, oil and gas or other mineral leases, oil and gas or other mineral royalty or mineral sales, and one-third (1/3) of the money derived from any and all royalty . . . in lands in which he or she has a dower, curtesy, or homestead interest, unless said surviving spouse shall have relinquished same in legal form.

Because the dower laws create a life estate with remaindermen at common law, the party seeking a lease of mineral interests should obtain execution by both the surviving spouse and the remaindermen, usually descendants of the decedent. The lessee of a life estate constituting dower does not

acquire any working interest in the leasehold estate unless such dower interest has been assigned to a particular tract of land.

Dower is assigned by a statutory procedure. If the dower is not assigned to the surviving spouse within one year from the death of the decedent, or within three months after demand, the surviving spouse may petition the Probate Court listing the lands in which dower is claimed. If the proper procedure is followed, the surviving spouse can have dower allotted. The lessee of such a person obtains a working interest for the life of the lessor.

Allocation of Bonus and Rentals:

In instances of dower, it is the general practice in Arkansas to allocate one-third of the bonus and rentals to the surviving spouse. The statutory provision set forth herein for the payment of a one-third dower interest in royalty is the guiding force in making such determination, but it is only a guideline. In the event of a life estate other than dower, the bonus and rentals to be paid to the life tenant are negotiated with the tenant; if not approved by the remaindermen, a full bonus may be necessary for the remaindermen. Prudent practice would dictate that a rental division order be executed by the life tenant and the remaindermen.

G. SEPARATE PROPERTY

Separate property ownership is the rule and not the exception in Arkansas. Separate property ownership is subject to the dower or curtesy interest of the spouse. The signature of the non-owning spouse is required to release his or her right of dower or curtesy, if the lease is to be free of the claim of the non-owning spouse's interest of dower or curtesy.

H. TRUSTS

Trusts should be of particular concern to the attorney or landman concerned with acquiring leasehold interests or developing mineral interests in the State of Arkansas. Real estate or mineral interests owned by a trust requires the landman or title examiner to review the trust instrument. Frequently, the documents necessary to show the authority of the trustee to own, convey, lease, ratify, or mortgage real estate or mineral interests are not set forth in the deed records. These documents must be reviewed in order to determine the authority of the trustee to deal with the property. If minerals are owned by a trust, the landman or title examiner must determine the (1) present trustee, (2) the authority of the trustee to deal with the property owned by the trust, and (3) the current status of the trust as it relates to the beneficiaries. If the trust has terminated, the trustee has no authority to deal with the property that was previously owned by the trust, even if record title does not reflect any conveyances out of the trust to the trust beneficiaries.

VI. TYPES OF MINERAL OWNERSHIP

A. COTENANCY

The mineral interest in land, including the leasehold interest, can be held either as tenants in common, joint tenants with right of survivorship, or tenants by the entirety.

(a) Development by Co-tenants:

Arkansas follows the majority rule that a co-tenant, or his lessee, does not trespass or commit waste when he produces minerals without the other co-tenant's consent. *Fife v. Thompson,* 288 Ark. 620, 708 S.W.2d 611 (1986). The producing co-tenant or his lessee must account to his co-tenant for their proportionate share of production less costs. In *Budd v. Ethyl Corp.,* 251 Ark. 639, 474 S.W.2d 411 (1971), the court pointed out that the lessee of one co-tenant has no rights against the lessee of a second co-tenant as both have an equal right to develop the leasehold.

(b) Partition:

The owner of a mineral interest has a specific right to partition that interest where there is no outstanding oil and gas lease thereon. Arkansas Code Section 15-73-401 through 409. An owner wishing to partition his interest shall petition the chancery court and shall include all other owners as defendants. Arkansas Code Section 15-73-402.

The leasehold interest is not partitionable as it is an easement and not a corporeal interest in land. However, *Hilliard v. Stevens,* 276 Ark. 545, 637 S.W.2d 581 (1982), may now make this untrue as to leaseholds. There are no Arkansas decisions on the right to partition a royalty interest.

B. LIFE ESTATES AND REMAINDERMEN

The life estate can arise by grant, reservation, or through the operation of the dower and curtesy statutes. The lessee is presented with the problem of having to obtain execution from all interested parties, the life tenant as well as the remaindermen, in most instances.

(a) Conventional Life Estate:

This estate usually arises when a grant contains language similar to the following: "to A for life then to . . ." or "to A for so long as he is alive, then to . . . ." A life estate created by the dower and curtesy laws is called a "life estate by operation of law" not a "conventional life estate."

Once the leases are obtained from both the life tenant and the remaindermen, the lessee still must divide the proceeds from the lease. Generally, the life tenant is entitled to any interest on the royalty as the interest represents income, while the remainderman receives the royalty itself representing the property. *Wright, 9* UALR Law Journal at 247. While Arkansas has not held this, the premise was mentioned in *Dickson v. Renfro,* 276 Ark. 223, 634 S.W.2d 104 (1982).

The allocation of bonus is generally made to the remaindermen as it is considered royalty paid in advance. *Wright,* 9 UALR Law Journal at 247. However, in *Love v. McDonald,* 201 Ark. 882, 148 S.W.2d 170 (1941), the Arkansas Supreme Court awarded bonus to the life tenant. *Love* involved what at common law would be a fee tail (a grant to "A and the heirs of his body") and not a conventional life estate. As to conventional life estates, Arkansas has no rule regarding allocation of bonus, nor is there a rule, in Arkansas, governing allocation of delay rentals. The general rule is that delay rentals are allocated to the life tenant because they are not a substitute for the depletion of the minerals. *Wright,* 9 UALR Law Journal at 247.

(b) Common Law Fee Tail:

A grant or devise using the words "to A and the heirs of his body" or "to A for life, remainder to the heirs of his body" creates, at common law, a fee tail estate which has now been abolished by statute in Arkansas Code Sections 18-12-301 and 302.

(c) "Open Mine" Doctrine:

This doctrine in effect says that if the life estate is created when an "open mine" is in existence, then the grantor or testator intended the life tenant to have all revenue accruing to the interest of the life tenant. An "open mine" exists if there is a producing oil and gas well. A valid lease, even without any production or actual operations thereunder, constitutes an "open mine" calling for application of the doctrine. *Warren v. Martin,* 168 Ark. 682, 272 S.W.2d 367 (1925).

There is no Arkansas decision involving an existing lease which thereafter expires, and the life tenant and remaindermen thereafter execute a second lease. The open mine doctrine does not apply under Oklahoma or Texas case law. *Wright,* 9 UALR Law Journal at 244.

If the "mine was not opened" (leases were not outstanding) when the life estate was created, the life tenant is entitled to receive the income from the royalty interest, i.e., interest from investment of royalty proceeds.

(d) Leasing the Life Estate

Arkansas Code Section 15-73-301 converts what would have been a fee tail at common law to a life estate and allows one who owns such an estate to petition the Chancery Court for authority to execute oil and gas leases. Arkansas Code Section 15-73-302 *et seq* set forth the procedure for leasing the interest of a life tenant. The petition must:

(1) name all parties, then in being, who would become vested with title to the lands should the death of the life tenant occur on the date of the petition;
(2) describe the land;
(3) name the life tenant's predecessor in title;
(4) name proposed lessee and consideration; and
(5) have a prayer for authority to execute lease and for an order awarding the life tenant absolute title to apportionment of the oil and gas, not to exceed one-sixteenth interest.

VII. STATE LANDS

A. NAVIGABLE STREAMS

The State of Arkansas owns the land constituting the beds of navigable streams. *State v. Southern Sand & Material,* 113 Ark. 149, 167 S.W. 854 (1914). This rule raises two questions: First, what is the "bed" of a stream, and second, when is a stream "navigable"? If a stream is non-navigable, then the owner of the land adjoining the stream, the riparian owner, owns the land beneath the water as well.

The old rule in Arkansas was that a stream was "navigable" if it were commercially navigable. *Lutesville Sand & Gravel Co. v. McLaughlin,* 181 Ark. 574, 26 S.W.2d 892 (1930). However, in 1980, the rule dramatically changed. In *State v. McElroy,* 268 Ark. 227, 595 S.W.2d 659 (1980), the Arkansas Supreme Court held that the Mulberry River in North Arkansas was a navigable stream. The Mulberry is used recreationally for about six months a year; it is dry at times during the summer. Arkansas now has the rule that almost any type of use, whether commercial or recreational, will render a body of water navigable. Once such a determination is made, the bed of a body of water belongs to the State.

The "bed" of a stream is that soil so usually covered by water as to be distinguishable from the bank by the character of the soil or vegetation produced by the presence and action of flowing water. *Hayes v. State,* 254 Ark. 680, 496 S.W.2d 372 (1973). The bank of a river is marked by such vegetation as is appropriate to the locality wherever the bank is not too steep to permit such growth.

B. LEASES FROM THE STATE

The office of the Commissioner of State Lands has the authority and responsibility to consider applications and grant leases of oil and gas interests from the bed and bars of navigable rivers and lakes or on any other lands held in the name of the State of Arkansas. Arkansas Code Section 22-5-801.

(a) Streambeds:

In naturally occurring waterways, the State owns the lands covered by navigable water. *State v. McElroy, supra.* However, by statute, the land under the artificially created navigable body of water remains in the ownership of the private parties who owned them prior to the land being covered by water. Arkansas Code Section 22-5-815. Such private ownership becomes subservient to the use of the artificial body of water by the public. The owner may not interfere or impair public navigation, transportation, fishing, or recreation on such navigable waters.

(b) Highway Right-of-Ways:

Right-of-ways for public roads have been acquired in Arkansas by easement for roadway purposes or by fee title to the entire surface and mineral estate. If the instrument creating the highway right-of-way is an easement, there is no conveyance of the mineral estate under the affected land, and the owner whose land is subject to the easement remains the owner of the minerals. In the event the land in the right-of-way was granted to the State of Arkansas by deed in fee simple, title to the land, including minerals underlying the public road, is vested in the State of Arkansas. Plats placed of record creating subdivisions generally create easements for all roadways and public thoroughfares within the platted lands.

A complicating situation can arise where the public road was constructed on an easement granted for roadway purposes and then was subsequently widened by the State of Arkansas, and the land for the additional right-of-way was granted in fee to the State of Arkansas by deed. Under these circumstances, the State of Arkansas would be considered the fee owner of the land under the widened roadway including the underlying minerals.

There are many conveyances of record in the State of Arkansas which describe by metes and bounds a tract of land with a highway right-of-way as its boundary. The Courts of Arkansas hold that it is generally not the intention of the grantor in such instruments to exclude the fee underlying the adjoining highway or public road easement. *Crute v. Hyatt,* 220 Ark. 537, 249 S.W.2d 116 (1952).

(c) Procedure for Leasing State Lands:

A lessee seeking to lease State owned land in Arkansas must apply to the Department of Finance and Administration for a lease or a permit to develop. Arkansas Code Section 22-5-805. The application is made on forms provided by the Department. Each lease or permit must expressly define and limit the area from which the lessee will be allowed to take the minerals. Arkansas Code Section 22-5-805(c)(1). Once production starts,

the lease will automatically terminate if "commercial production" is discontinued for six months or longer unless the lease expressly provides otherwise. Arkansas Code Section 22-5-805(d).

Once the application is received and the Department determines that such lease would be in the best interest of the State, the Department will publish a notice for three days in a statewide newspaper and for one day in a newspaper of the County where the land is located. Such notice shall contain a description of the lease sought, the minimum fee or royalty, the terms and conditions of the lease, and shall state that persons may bid on the lease by filing a sealed bid with the Department. Arkansas Code Section 22-5-807(b)(2). Other bids must be received within twenty days of the last day of publication. Arkansas Code Section 22-5-807(b)(3). If no other bids are received, the lease may be awarded to the applicant. Arkansas Code Section 22-5-807(c). If other bids are received, the lease is awarded to the highest bidder. However, the Department may reject all offers.

Any person taking oil, gas, or minerals from state lands without the required lease or permit shall be deemed guilty of a misdemeanor and, upon conviction, shall be fined not less than $300.00 nor more than $1,000.00. Each day of unauthorized taking of minerals will be a separate offense. Arkansas Code Section 22-5-803(a). Further, the State can bring an action to recover the value of any oil or gas taken in addition to the fine imposed. Arkansas Code Section 22-5-803(b).

C. FORFEITED LANDS SOLD BY THE STATE

In 1939, Section 5 of Act 331 of the Acts of the General Assembly of the State of Arkansas required that "all coal, oil, gas, and mineral rights . . . be reserved to the State," in lands suitable to be returned to private ownership and disposed of as such by the Commissioner of State Lands. There was confusion, however, as to whether this section applied to land which was forfeited and sold to the state for non-payment of taxes due. To eliminate this confusion, Act 94 of the Acts of the General Assembly of the State of Arkansas was approved and became effective on February 24, 1943.

Act 94 provided that deeds disposing of lands forfeited to the State for non-payment of taxes would not contain any restrictive covenants or reservations relative to such oil, gas, and mineral rights. The Act did not effect the validity of any such lease in effect at that time but, at such time as the lease expired, the rights then passed to the fee owner of the surface estate. Further, where oil, gas, and mineral rights in tax forfeited lands had been reserved, the rights were immediately passed to the present owners of the fee title. In the more recent past, Section 5 of Act 331 has been codified as Arkansas Code Section 22-5-307, and Sections 1 and 2 of Act 94 have been codified as Arkansas Code Section 22-6-502.

Although rare, should one of the deeds making this reservation be found in a chain of title, Subsection (d) of Section 22-6-502 sets forth the manner that the owner of the surface rights can have a Quitclaim Deed issued by the State releasing its interest in and to all coal, oil, gas, and mineral rights reserved. Therefore, for the small deed fee of five dollars, this perceived problem in the chain of title can be remedied.

VIII. TRESPASS

A. GOOD FAITH OR BAD FAITH

Where a producer takes oil and gas or other minerals from the earth, thereby causing a depletion of another's minerals, the rule of capture may protect the lease operator. However, Arkansas does not allow the rule of capture to protect all production. For example, production resulting from secondary recovery processes is not protected by the rule of capture. Where the rule of capture does not afford a producer protection, he can be liable for subsurface trespass. There are two measures of damages for the subsurface trespasser.

For good faith trespass the idea of recovery is to make the injured party whole. *National Lead Co. v. Magnet Cove Barium Corp.,* 231 *F.Supp.* 208 (W.D. Ark. 1964). If the injured party is incapable of producing the minerals himself, as most landowners are, the correct measure of damages is based on royalty for the minerals taken. However, if the injured party has the ability to produce the minerals himself, the correct measure of damages would be an amount equal to the value of the minerals produced less reasonable costs for production. In *National Lead,* the court also awarded damages for "disturbed" minerals, those affected but still in place, because of the increased cost of removal the trespass had caused.

While the usual remedy for trespass is an injunction, the Arkansas court has indicated that an injunction was not available to *stop* a good faith trespass such as a secondary recovery operation. *Jameson v. Ethyl Corp.,* 271 Ark. 621, 609 S.W.2d 346 (1980). In *Jameson,* the court stated that trespass was not a proper remedy.

The measure of damages for bad faith trespass is the value of minerals produced. This measure is punitive and is not limited to making the injured party whole. The harshness of the bad faith measure of damages has led to a reluctance to find bad faith by the Arkansas Supreme Court. Even where the trespasser is not completely innocent, the court has found good faith. In *National Lead, supra*, the court found a lack of reasonable care in ascertaining the boundary lines, yet still found good faith on the part of the trespasser. Bad faith trespass will rarely be found.

There is one time when the court will not hesitate to find bad faith trespass. This is the case of the "slant" or directional well. Because of the advanced state of drilling technology, "the plea of good faith in drilling a trespassing directional well will rarely be favorably received in court today." *Wright, 9* UALR Law Journal at 239 [citation omitted].

In addition to trespass where the trespasser actually takes oil or gas from the injured party, the situation can arise where a trespasser drills a dry hole or a well which has no commercial production. In such a case, the injured party may claim speculative value loss. The injured party can claim that the trespass resulted in the inability of the injured party to execute a lease at the prevailing market rate. *Wright,* 9 UALR Law Journal at 240. Arkansas has no cases discussing this type of recovery for loss of speculative value. Texas has allowed speculative value to be recovered from a trespasser in this situation. *Humble Oil Refining Co. v. Kishi,* 276 S.W. 190 (Tex. Comm. App. 1925).

B. SEISMIC TRESPASS

Another area of possible liability for a trespasser is where the trespasser enters upon land for the purpose of conducting a geophysical survey. Such a survey may indicate that no recoverable oil or gas exists and thereby may decrease the speculative value of the owner's property. There are no Arkansas cases in this point.

In Williams & Myers, *Oil and Gas Law,* Section 230 (Abridged Ed. 1981), the authors discuss *Angelloz v. Humble*

Oil & Refining Co., 199 So. 656 (La. 1940), where Louisiana allowed recovery for trespass which consisted of a geophysical survey. The majority of the damages recovered in *Angelloz, supra,* appeared to be for loss of speculative value. Williams & Myers list four possible measures of damages for such a geophysical trespass:

1. The value of the right to enter on the land for the survey;
2. The loss of speculative value by reason of the unfavorable publicity resulting from the survey;
3. The value, to the trespasser, of the information obtained; and
4. Punitive damages for bad faith trespass.

Williams & Myers, *Oil & Gas Law,* Section 230 (Abridged Ed. 1981). No liability has been assessed for sending shock waves through another's property without actual physical trespass. Even though Arkansas has not developed the law on seismic trespass, most legal authorities are of the opinion that Arkansas would recognize seismic trespass.

In the event the mineral estate is severed from the surface estate, permission for a seismic survey would be required from the owner of the mineral estate. The permission of the owner of the leasehold estate, in the event of an outstanding oil and gas lease, would also be necessary. In either event, severed mineral estate or outstanding oil and gas lease, the right of entry to the surface should be obtained from the surface owner.

IX. DAMAGES

When something goes wrong and the surface is damaged in some manner, the question becomes "due to the contractual obligations created by the lease, what is the measure of damages that the operator is liable for?" The surface owner may seek restoration costs or may seek the value of the land. Depending upon the characterization of the damages, either one may be assessed.

In the law of property damages, there are two classifications, permanent or temporary. The clearest way to define a not so clear distinction is that "temporary damages" are those damages which may be remedied. In general the measure of damages, if an injury is permanent, is the difference between fair market value of the land before and after the injury. *Fox v. Nally*, 34 Ark. App. 94, 805 S.W.2d 661 (1991). When the damage to the property is temporary, however, the correct measure is the restoration cost. *Id*. A problem arises when the damages are found to be temporary, but the cost of restoration exceeds the market value of the property. How much should the operator be forced to pay above the value of the property? This argument was addressed by the Arkansas Supreme Court in *Benton Gravel Co. v. Wright*, 206 Ark. 930, 175 S.W.2d 208 (1943). In *Benton Gravel Co*., the Court relied on the statement that:

"It is often difficult for a court to determine the true measure until all the evidence is in. It may turn out that the cost of [restoration] in a certain case would be less than the difference in the value of the land, and then the cost of [restoration] would be the proper measure of the damages; or it may be that the cost of [restoration] would be much greater than the injury by the [damage], when the true measure would be the difference in value . . . ."

Therefore, in situations such as this, the best argument for the correct measure of damages is that should the restoration costs exceed the market value of the land before the injury, the operator should then be liable for the value of the land. The landowner's attorney will argue that the injury is temporary which permits the full restoration or remediation cost rather than be limited to the difference in market value.

X. THE OIL AND GAS LEASE PROVISIONS

A. HABENDUM CLAUSE

The habendum clause normally provides that the lease will remain in effect for a prescribed number of years and "for as long thereafter as oil or gas is produced" or "for as long thereafter as oil or gas is produced in paying quantities."

(a) What is a "Paying Quantity"?

In Arkansas, "paying quantities" means production profitable to the lessee. *Turner v. Reynolds Metal Co.,* 290 Ark. 481, 721 S.W.2d 626 (1986). In determining profitability, the basic test is whether or not such production is sufficient to pay monthly operating costs. Overriding royalty interests and recoupment of drilling and/or reworking costs are excluded from the determination.

(b) Cessation of Production.

The phrase "as long thereafter as there is production" indicates that any cessation of production would result in termination of the lease. The Arkansas rule is that a temporary cessation of production does not automatically terminate the lease. The lessee has a reasonable time after cessation to restore production. *Reynolds v. McNeill,* 218 Ark. 453, 236 S.W.2d 723 (1951).

Many leases contain clauses which give the lessee a specific number of days in which to restore a lease to production. These provisions will be enforced by Arkansas courts. *Wright,* 10 UALR Law Journal at 28.

(c) Continuous Operations Clause.

A lease may contain a clause which will extend the lease into the secondary term, even if there is no production, so long as "operations" have commenced. Where a clause continues the lease in force for so long as operations (directed at drilling) are carried out, the lessee who acts in good faith and with diligence is allowed to continue. *Haddock v. McClendon,* 223 Ark. 396, 266 S.W.2d 74 (1954). Note that some continuous operations clauses are limited to the wells being drilled at the end of the primary term.

B. STATUTORY PUGH CLAUSE (Arkansas Code §15-73-201)

The "Pugh" clause is a name given to a pooling clause which provides that drilling operations or production from a pooled unit or units shall maintain the lease only as to the unit where production occurs. Payment of rentals is generally needed to maintain the lease as to other lands within the leasehold.

Arkansas adopted a type of "Pugh" clause by statute in 1983. The Code (§15-73-201) provides as follows:

(1) The term of an oil and gas or oil or gas lease extended by production in quantities in lands in one section or pooling unit in which there is production shall not he extended in lands in sections or pooling units under the lease where there has been no production or exploration.

(2) This section shall not apply when drilling operations have

commenced on any part or lands in sections or pooling units under the lease within one year after the expiration of the primary term, or within one year after the completion of a well on any part of lands in sections or pooling units under the lease.

(3) The provisions of this section shall apply to all oil and gas or oil or gas leases entered into on and after July 4, 1983.

C. PAYING QUANTITIES

A recent Arkansas case, *Ross Explorations, Inc. vs. Freedom Energy, Inc.*, 340 Ark. 74, 8 S.W.3d 511 (2000), discusses how to determine if a lessee is maintaining production for purposes of preserving lease rights beyond the term of years stated in the lease. The trial court stated that each lease requires "that the lessee produce gas in 'commercial paying quantities.'" *Id.* at 513, 8 S.W.3d at 76. In this particular case, the crucial issue was "whether the well, when appropriate expenses are deducted, turns a profit, however small." *Id.* at 514, 8 S.W.3d at 79. The Court determined that it agreed with the Kansas case *Reese Enterprises, Inc. v. Fox*, 228 Kan. 589, 618 P.2d 844 (1980), which said that the appropriate expenses to deduct are those "direct expenses attributable to the operation of the lease." The Court determined that the following costs may be included as direct expenses: pumping labor; field labor; auto/truck; road/location; chemical treating; taxes; salt water disposal; product/equipment services; well services; services for leased equipment; other and indirect services; and materials and supplies. Thus, from *Ross*, the meaning of "paying quantities" in Arkansas became the profit of a well, however small, after the previously listed direct expenses attributable to the operation of the lease are deducted.

D. LEASES HELD BY PRODUCTION (HBP)

In many instances, there are leases that are in part undeveloped and are held by production. Failure to produce as to certain portions of the lands described in the lease for an extended period of time may create a forfeiture of the undeveloped acreage. The Arkansas Supreme Court, in the case of *Byrd v. Bradham,* 280 Ark. 11, 655 S.W.2d 366 (1983), held that a lessee's obligation to explore is a continuing one even after paying quantities of oil are discovered on the lands described in the lease. The Court stated that production on only a small portion of the leased land does not justify holding the entire leasehold indefinitely, thereby depriving the lessor of receiving royalties from some other leasing arrangement on the unproductive lands. Inactivity by a lessee for an unreasonable length of time will result in a lease cancellation even though the lessor has not made demand on the lessee to drill or develop. A twenty-eight year period was deemed to be an unreasonable period of delay in the development of the lands involved in the *Byrd* case, but it could be determined that a shorter period of time could be unreasonable. Under these circumstances, care should be taken in assuming that a lease is held by production.

The Supreme Court, in a later case, did expand on the *Byrd* case by allowing a conditional cancellation if drilling operations were not commenced within a given period of time. One trial Court determined that the statutory *Pugh* clause for one year enacted by the Legislature is a good yardstick to determine the period of time for a conditional termination of a lease as to undeveloped properties. The trial Court in that case held that if the undeveloped lands were not developed within a period of one year from the date of the Court's decision, then the lease would terminate as to the undeveloped properties.

The Supreme Court revisited this issue in *Davis v. Ross Production Co.*, 322 Ark. 532, 910 S.W.2d 209 (1995). Ross Production had drilled three wells under [a lease known as] the Fouke B Lease on each of the three governmental quarter-quarter sections. Davis had acquired a top lease on a forty-acre tract contained in the Fouke B Lease. Each party wanted the right to drill a well in this forty-acre tract. The chancellor of the lower court found that "Ross Production began to explore or develop the [forty-acre tract] only when it learned Davis had obtained top leases on the [forty-acre tract], and was prepared to submit to the Commission a request for permission to drill. Nonetheless, the chancellor concluded that Ross Production held the Fouke B Lease by having drilled a well on each of the three units under the lease." *Id.* at 536, 910 S.W.2d at 211. Subsequently, the Supreme Court found that Ross Production did not hold the leases by production by stating, "we cannot say that its actions were those of a prudent operator who exercised reasonable diligence in exploring and developing the entire leasehold." *Id.* at 540, 910 S.W.2d at 213.

The determination of whether a well is producing in paying quantities must be made on a unit basis rather than an individual lease basis, since the concept of unitization makes the leases indivisible with respect to the unit. *Perry v. Nicor Exploration,* 293 Ark. 417, 738 S.W.2d 414 (1987).

E. TOP LEASES

A top lease is a lease granted by a landowner during the existence of a recorded mineral lease which is to become effective if and when the existing lease expires or is terminated. *Crystal Oil Co. v. Warmack*, 313 Ark. 381, 383, 855 S.W.2d 299, 301 (1993) [citing Howard R. Williams & Charles J. Meyers, Manual of Oil and Gas Terms 1011 (7th ed. (1987)]. The Supreme Court discussed top leases in *Sunbelt vs. Stephens Corp.*, 320 Ark. 298, 896 S.W.2d 867 (1995). In the 1950's Stephens Production Co. and Chevron USA acquired oil and gas leases, which provided for the payment of royalties on the basis of market value, in the Arkoma Basin, which became pooled by the Arkansas Oil and Gas Commission into the Gregory Unit. *Id.* at 300, 896 S.W.2d at 869. In the late 1980's, Sunbelt Exploration Co. purchased top leases from all of the Gregory Unit lessors. *Id.* at 301, 896 S.W.2d at 869. In 1990, in a letter, Sunbelt requested that Stephens release the undeveloped balance of the unit for exploration and production by Sunbelt. Stephens responded that it was planning to drill in the unit and would do so. Sunbelt brought this suit to have title quieted in it. The Court, agreeing with the lower court, found that "Stephens acted as a prudent operator in its management of the [reservoir in question] within the Gregory Unit, and that Sunbelt failed to prove Stephens breached any implied covenants in the Gregory leases." *Id.* at 307, 896 S.W.2d at 873.

The Supreme Court also discussed the issue of top leases in a later case, *Davis vs. Ross Production Co.*, 322 Ark. 532, 910 S.W.2d 209 (1995). In this case, Ross Production held leases in lands located in Miller County, on which they drilled three wells on each of the three governmental quarter-quarter sections between 1982 and 1984. In April 1992, Ross Production drilled on one of the forty-acre tracts; in October 1992, Davis acquired top leases on the same forty-acre tract. The issue came to trial after each party, on the same day, filed for drilling rights on the forty-acre tract. After hearing testimony in which Ross Production stated that it had not drilled the platted well on the forty-acre tract thus far due to the depressed oil market, the Court, quoting from *Poindexter v. Lion Oil Refining Co.*, 205 Ark. 978, 167 S.W.2d 492 (1943), stated that Ross Production had a duty to produce throughout the whole of the leased premises, and that it must not consider its own interests wholly or for the most part. Thus, the Court found that Ross Production

breached the implied covenant to continue to explore and develop the forty-acre tract, so the Court reversed and remanded the lower courts decision with orders to cancel the lease with Ross Production as to the forty-acres and to quiet title to the same in Davis. *Davis*, 322 Ark. at 542, 910 S.W.2d at 214.

XI. EXECUTION AND RECORDATION OF THE LEASE

A. EXECUTION

The Oil and Gas Lease should be dated and contain the name(s), address(es), marital status of the lessor(s) of the mineral interest, and the name and address of the lessee. Also, the lessor's Social Security number or Federal Tax Identification number should be inserted near the signature line on the lease.

As noted earlier, you should be aware that in a conventional life estate the lessee needs to have both the life tenant and the remaindermen execute leases.

The lease must be signed by the lessors, if they are individuals, or if a corporation then by an officer of the corporation. The signatures of the individuals or the corporate officer must be acknowledged by a Notary Public. The printed name and address of the notary is frequently helpful.

In *Appendix A* to this Leasing Manual, are various forms of acknowledgments that may be used. If a lease or other instrument is to be executed by "Mark," then the execution of such document should be "witnessed" by at least two witnesses in addition to the notary. A sample acknowledgment form for a signature by "Mark" and for the "witnesses" is included in *Appendix A*.

Effective January 1, 2004, all deeds, mortgages, releases, oil and gas leases, and any other instrument to be recorded in the office of the Circuit Clerk must be on letter size paper with at least two and half inches of blank space on the top of the first page and two inches of blank space on the bottom of the last page of the instrument to be recorded. All other margins are to be at least one-half inch (1/2") wide.

B. RECORDATION

The Oil and Gas Lease should also be recorded in the Circuit Clerk's Office in the County where the land being leased is located. The Lease itself should contain a "Certificate of Record" which is to be completed by the Circuit Clerk upon recordation. Arkansas is a "race to the records" state, and the first lease filed is the valid lease, unless it can be shown that the lessee in the first lease recorded had actual knowledge of a prior unrecorded lease to the same land.

Several Counties in Arkansas are divided into Districts. Each District maintains a Circuit Clerk's office for recording purposes. In such instances, for a valid recordation, the act of recording must be done in the District in which the lands are located.

XII. BRINE OR SALT WATER

A. MINERAL OR NOT

Today, the definition of minerals is established by Arkansas Code Section 15-56-301 which has been amended to include "salt water whose naturally dissolved components or solutes are used as a source of raw material for bromine and other products derived therefrom in bromine production." However, prior to this amendment the *Strohacker* Doctrine, and the cases defining that doctrine, controlled whether brine (salt water) was considered a mineral for leasing and conveyance purposes. Applying the standard set forth by the defining cases, January 1, 1955, is the date commonly referred to as the date upon which the first brine leases were recorded. Thus, before this date, granting clauses which did not specifically mention brine are deemed not to convey rights to brine.

B. CALCULATING MARKET VALUE

In 1963 *Parnell v. Giller*, 237 Ark. 267, 372 S.W.2d 627 (1963), addressed the calculation of royalties under a lease for commercial production of salt water. The question in the case was whether the lessee, in calculating the market value, was entitled to deduct its expenses in piping the brine to the chemical company and in disposing of the spent brine. The Court based its decision on this provision of the lease:

"The royalty to be paid by Lessee is: On brine produced from said land and sold off the premises or used off the premises in the manufacture of bromine or other product therefrom, the market value at the well of one-eighth (1/8) of the brine so sold or used; provided, that on brine sold at the wells the royalty shall be one-eight (1/8) of the amount realized from such sale."

The Court found that *Clear Creek Oil & Gas Co. v. Bushmiaer*, 165 Ark. 303, 264 S.W. 830 (1924), in which the Court construed a clause in a gas lease that was similar, was controlling. In that case, the lessee was entitled to deduct its transportation and distribution expenses in determining the market value at the well.

The Court, in *Parnell,* found that the piping costs fell within the transportation costs, and the expense of disposing of the used brine fell within the same reasoning, finding: "Both of these services were demanded by the chemical company as a condition to its willingness to enter into the contract of purchase." The Court went on to state: ". . . it is not reasonable to suppose that the buyer would have agreed to pay as much as it did for the brine if the performance of these necessary steps had been its own responsibility." The key to permitting these two deductions was: ". . . essential to and peculiar to the marketing of the product itself."

C. RULE OF CAPTURE

In 1972, the Supreme Court of Arkansas first addressed the rule of capture as applied to brine in *Budd v. Ethyl Corporation*, 251 Ark. 639, 474 S.W.2d 411, (1971). The Court addressed two separate claims of invasion of property interests. First, the plaintiff owned a 240 acre tract lying next to, but outside of, the defendant's 16,000 acre tract. The defendant had set up a recycling effort with input wells on the outer edge of the tract and output wells within the ring formed by the input wells. The plaintiff complained that this process drained valuable brine from his property and that the defendant owed an accounting for a share of the profits. The Court ruled that the rule of capture applied and that the defendant was not liable to the plaintiff.

The plaintiff also argued that the rule of capture was nullified by the statute permitting the Oil and Gas Commission to bring about compulsory unitization in oil and gas fields. The Court dismissed this argument stating that there had been no unitization of the 240 acre tract, and further that the Oil and Gas Commission had no authority to order any such unitization.

Secondly, the plaintiff held a one-tenth (1/10) leasehold

interest on a 40 acre tract which was inside the input wells. The Court held that the law of capture did not apply in this situation. The Court, however, found the plaintiff was not entitled to an accounting because the plaintiff did not have a vested property right in the brine. Further, the Court found persuasive that the plaintiff was asking to share in a benefit for which he was unwilling to share the risk.

In 1975, the Eight Circuit Court of Appeals heard a case which distinguished the *Budd* decision. *Young v. Ethyl Corporation*, 521 F.2d 771 (8th Cir. 1975). The land in question was within the same 16,000 acre block as in *Budd*. This time, however, the plaintiff's interest in the land was fee simple. Because of this distinction, the Court found that the decision in *Budd* had not addressed the issue and refused to extend the rule of capture to include this situation. The Appeals Court found that the forceable removal of the brine beneath the plaintiff's land constituted an actionable trespass. The Appeals Court reversed the lower court and remanded for the determination of damages.

In 1980, the Supreme Court of Arkansas ruled on issues similar to that in *Young*, in *Jameson v. Ethyl Corporation*, 271 Ark. 621, 609 S.W.2d 346 (1980). The Court held that the rule of capture should not be extended to include operations which effect lands within "the peripheral area affected." The Court, however, went on to hold that "reasonable and necessary secondary recovery processes of pools of transient materials should be permitted, when such operations are carried out in good faith for the purpose of maximizing recovery from a common pool," but an obligation is imposed upon the extracting party to compensate the owner of the depleted lands for the minerals extracted in excess of natural depletion and for any special damages.

D. PRODUCTION UNITS

The Arkansas Oil and Gas Commission was given the jurisdiction and authority to form brine production units in Section 15-76-306 of the Arkansas Code. This is not to say the results reached above in applying the rule of capture would have been any different. When addressing the issues presented in the context of the rule of capture, the courts, either with or without specifically stating, relied on the rationale supporting unitization laws. As stated by the Court in the *Jameson* case:

" . . . While Arkansas' unitization laws are not, as previously noted, involved in this case, we do believe that the underlying rationale for the adoption of such laws, i.e., to avoid waste and provide for maximizing recovery of mineral resources, may be interpreted as expressing a public policy of this State which is pertinent to the rule of law of this case. Inherent in such laws is the realization that transient minerals such as oil, gas and brine will be wasted if a single landowner is able to thwart secondary recovery processes, while conversely acknowledging a need to protect each landowner's rights to some equitable portion of pools of such minerals."

Although there are many more statutes addressing issues of concern in the production of brine, some of the more pertinent statutes are:

§15-76-308 which identifies who may make application for the establishment of brine production units and states that a brine production unit may consist of no fewer that 1,280 contiguous surface acres;

§15-76-309 which prescribes what information must be provided in a petition to for a brine production unit;

§15-76-312 which permits the owner of and interest in a tract which is adjacent to a brine production unit which is not included to petition for inclusion within the unit;

§15-76-314 which requires each owner of an unleased interest in an established production unit to elect within 60 days from the effective date of the order to either participate affirmatively in the operation or to transfer his interest in the brine to the participating producers; and

§15-76-315 which states no valuation of brine or any other alternate method of computing royalty or in lieu of royalty shall ever result in compensation which is less than $32.00 per acre per year.

XIII. OIL AND GAS EXPLORATORY PRODUCTION UNITS

In Arkansas Code Section 15-72-302 (e), the Oil and Gas Commission is the authority to establish a drilling unit as defined in Section 15-72-302 (b). The drilling unit may be comprised of a governmental section or the equivalent thereof or such larger or smaller drilling units as the Commission shall approve. While the Commission has the authority to integrate separately owned tracts within such proposed unit, should a person or persons that own at least an undivided 50% interest in the right to drill and produce from the total proposed unit area object, the Commission can not authorize the creation of such unit. The amended statute, which became effective July 16, 2003, expressly authorizes the creation of such exploratory units for both oil and gas.

XIV. GUARDIANSHIP AND RECEIVER LEASES

A. GUARDIANSHIP LEASES

In Arkansas, a Guardian has the authority to execute, acknowledge, and deliver a lease on minerals owned by his ward. Arkansas Code Section 28-65-315(a). The Guardian can also assign the interest in a lease owned by the ward or sell any mineral interest owned by the ward if the Guardian deems such to be in the best interest of the ward.

The lease will be binding on the ward and his estate if, and only if, the procedure in Section 28-65-315 is followed. First, the Guardian must report the lease to the probate court of the County where the land is located, within sixty (60) days of the conveyance. *Id.* at Section 28-65-315(b)(1). Such report must state all the essential facts of the lease and ask the probate court to ratify the lease. The court shall determine if the lease is in the best interest of the ward and, if it so finds, will make an order approving and confirming the lease. Section 28-65-315(c). The court will also determine if the Guardian's bond is sufficient and will require whatever is necessary to protect the ward's interest. Failure to file such a report is a misdemeanor and will subject the Guardian to a fine not to exceed $10,000.00. *Id.* Section 28-65-315(f).

B. RECEIVER LEASES

Whenever minerals are owned by more than one party and there is no existing production of the minerals from the lands involved, any one of the owners, or the lessee of any owner, may petition for the appointment of a receiver to execute such a lease. Arkansas Code Section 15-56-304. All persons whose names or whereabouts are unknown to the petitioner will be taken as a defendant by the name "all whom it may concern." *Id.* Section 15-56-302(b). The petition shall state, as far as is

known, the interest held by each defendant. *Id.* Section 15-56-304.

Upon filing the petition in the Chancery Court, and after service of process, the court "shall appoint a receiver, who shall be authorized to . . . execute, acknowledge, and deliver a lease on the lands described in the petition, for the best interests of the owners of such lands." *Id.* Section 15-56-305. The lease executed by the receiver shall be binding on all parties, subject only to court approval. *Id*. The receiver shall report to the court within thirty (30) days of executing the lease.

The language of Section 15-56-302 preventing any attack on the appointment of a receiver, except by "direct appeal" has been construed to mean except a direct attack. Therefore, a motion to set aside the orders of the court by parties not properly served is allowed. *Davis v. Schimmel,* 252 Ark. 1201, 482 S.W.2d 785 (1972).

XV. THE ARKANSAS OIL AND GAS COMMISSION

Arkansas has a comprehensive Conservation Act (Act 105) whose purpose is to protect the public and private interest in oil and gas production. The Act requires that the Arkansas Oil and Gas Commission (hereinafter the "Commission") designate for each common source of oil or gas the size and shape of each drilling and production unit. Arkansas's conservation statutes became effective effective date February 20, 1939 with the express purpose (1) prevent waste, (2) foster and encourage conservation of crude oil, gas and brine, and products thereof, (3) protect the correlative rights of owners of crude oil, natural gas and brine, (4) authorize the Commission to prescribe rules, regulations and orders concerning the drilling for and production of oil, gas, and brine, (5) provide for the spacing of wells, formation of drilling units and force-pooling and integration of such units, (6) to authorize field wide unitization and secondary recovery, and (7) provide penalties for violations of the provisions of Act 105, as amended, and the rules and regulations of the Commission. The Commission's rules and regulations are available online at ***http://www.aogc.state.ar.us/*** along with its hearing schedule and production data from 1992 forward. Production data prior to 1992 is available in printed or hard copy format at the Commission's offices in El Dorado and Fort Smith.

A. FIELD RULES

Rule B-38 of the General Rules and Regulations of the Arkansas Oil and Gas Commission (AOGC) provides that field rules and regulations for a new reservoir shall be accomplished within six (6) months after the initial completion of the discovery well or the drilling of three (3) wells penetrating the same pool or reservoir, whichever occurs first. Field Rules are granted upon proper application being made and a public hearing on the application. The application should set forth:

(a) The geographical area to be included within the proposed field;
(b) The names of all interested parties within the confines of the proposed field; and
(c) Geological and engineering data to support the request for field rules, defining the size of the proposed producing units and well allowables.

If field rules are to be limited to a defined geographical area and are not to be extended without further order of the Commission, notice to only those parties within the proposed geographical area is required. If field rules are sought and extensions thereto are included, which allows extensions of the field by extending to contiguous drilling units, notice is required to be given to all parties within the described geographical area and every existing possible drilling unit contiguous to such geographical area at that time.

Rule B-43 of the General Rules and Regulations of the AOGC establishes drilling units for gas production from conventional and unconventional sources of supply occuring generally in North Arkansas. Drilling and production from the Fayetteville Shale, Moorefield Shale, and the Chattanooga Shale Formations, or their stratigraphic shale equivalents is governed by this rule. In the counties which are subject to this rule, unconventional sources of supply require a minimum setback distance of 560' from any unit boundary and require 1,120' from any unit boundary for a conventional source of supply. B-43 also permits two or more 640 acre governmental sections to be combined for the purpose of sharing production and expenses from a well that drains hydrocarbons from the affected sections. The AOGC generally permits the leasehold working interest owner with the largest interest or largest share of committed acreage to be the operator of the exploratory unit or an established unit as those terms are defined by B-43.

B. INTEGRATION OF UNLEASED INTERESTS

Once the Commission establishes a unit, the remedy of integration becomes available. Integration is provided for in Section 15-72-301 through 324 of the Arkansas Code. The code allows the Commission to integrate the interests of mineral owners who refuse to select from the options given (which may include the execution of a lease, prorata share of participation in the unit, or a farmout of the owner's interest). *Id.* Section 15-72-303.

One option available to a non-consenting owner is to neither sign the lease nor participate but to be carried by the operators for costs. Section 15-72-304(b)(2). If the well is productive, the operator may retain the revenue allocated to those non-participating interests until it reaches an amount those parties would have paid for participating "plus an additional sum to be fixed by the Commission." The owner facing an integration can also elect to participate in the operation.

Prior to integration, a unit must be established by the Commission. To establish a unit the party must petition the Commission. Such Petition must contain (1) a description of the proposed unit area, (2) a statement of the proposed nature of the operations, and (3) a copy of the proposed Unit Operating Agreement. Id. Section 15-72-308. The Commission, after notice, shall hold a public hearing to determine the need for the proposed unit. The notice of the hearing shall be given in one (1) publication at least ten (10) days but not more than thirty (30) days prior to the hearing, in a newspaper having general circulation in the County where the proposed unit is located.

Caveat: The Arkansas Oil & Gas Commission has adopted a policy that it will not integrate as an unleased mineral owner any State, County, City and other governmental agency. Act No. 105 of 1939 (now codified at A.C.A. §15-71-101 et seq.) which created the AOGC by implication grants all authority to the Commission for the regulation of production, spacing, drilling units and all other matters relating to oil and gas. ***Until the AOGC's policy is set aside or amended by a decision from a court of competent jurisdiction, it will be necessary to either lease or carry such unleased interests.*** Also note that Act 509 of 1993 (A.C.A. §22-5-801 et seq.) grants all authority to negotiate and execute oil and gas leases on all mineral interests

owned by the State or Arkansas or its agencies, except for the Arkansas Game and Fish Commission and the Arkansas Highway Commission which are both constitutional entities. Also, the AOGC will not permit a bank, mortgagee or lienholder to be integrated when such parties refuse to subordinate their lien to the lease. The AOGC's reasoning is that such parties are not "owners" as that term is defined by A.C.A. §15-72-107(7).

NOTE: Several counties in Arkansas are divided into two (2) Districts. Proper Notice must be published in a newspaper in the correct District to comply with the notice requirements.

Procedure to Obtain an Integration.

The integration of unleased mineral interests and non-consenting working interests in Arkansas is a relatively simple procedure. The Arkansas Oil and Gas Commission meets the 4th Tuesday of each month, except in November and December. Applications, together with the list of interested parties, must be submitted to the Commission for hearing at least twenty (20) days prior to the hearing date. The following is an outline of Exhibits to accompany each Application for the integration of a unit. All exhibits must be submitted at least 20 days prior to the hearing date. Fourteen (14) copies of each Exhibit are required by the Commission. A check in the amount of $500.00 must accompany each Application. This fee is nonrefundable. The Application for Integration should contain the following Exhibits.

EXHIBIT "A": Unit Plat. The outline of the unit to be integrated reflecting the unit's relationship with the surrounding area.

EXHIBIT "B": Authority for Expenditure. Proposed well location (legal location), field name, dry hole costs and completion costs are to be on the AFE (Authorization For Expenses).

EXHIBIT "C": Resume of Leasing Efforts. It is advisable to start keeping records of your leasing efforts at least 90 days prior to the time chosen for the hearing. Unleased mineral owners and non-consenting working interest owners should be contacted at least three times prior to the hearing date of the Application. The first contact to an unleased mineral owner should be made at least 60 days prior to the hearing. At least 30 days prior to the hearing, all interested parties should be provided with Authorization for Expenditures (AFE) and, if requested, a completed copy of the AOGC's promulgated Joint Operating Agreement (JOA). Unleased mineral owners must be given the choice of (1) leasing (at the highest royalty and bonus per net mineral acre paid by Operator), (2) participating with the Operator with their proportionate share of the drilling costs of the proposed well, or (3) electing to go non-consent. An unleased mineral owner who owns 100% of the minerals that elects to go "non-consent" may not have any portion of the surface estate disturbed by operations. Non-consenting working interest owners should either farmout or participate. Chronological contacts for each interest must be set out on separate exhibit pages (i.e. Exhibit "C" (1), (2), etc.). The broker or landman preparing the Resume of Efforts for a Company should reflect the efforts made to locate any individual or company that cannot be found with such efforts being clearly documented,

EXHIBIT "D": Complete Joint Operating Agreement. Although a Company should prepare a JOA, the Application for Integration requaires only a statement that the applicant as adopted the promulgated AOGC JOA form with the applicable drilling rates.

EXHIBIT "E": Isopach and Structure Map(s) needed to prove geological situation. Proposed well location is to be spotted on these Exhibits. These maps should cover at least a 9 section area with the section, township, range and county clearly marked on the exhibit.

EXHIBIT "F": List of Interested Parties. Names and addresses of all unleased mineral owners and non-consenting working interest owners in the unit. Address labels for each are to be included at the time the Application is made. This is for the convenience of the Commission in supplying Notice of the hearing to each individual or company. Once set of labels will be used when the notice of hearing is mailed to the interested parties at the time the application is filed and the other set will be used by the AOGC when the integration order is mailed following the hearing.

EXHIBIT "G": Proof of Publication. Notice of the hearing must be published in the newspaper in the County where the proposed well is to be located at least one time prior to the hearing, but no more than 30 days before and no later than 10 days prior to the hearing date. A copy of the Notice to be published, along with the cover letter to the newspaper, is to be included in the Application. The certified Proof of Publication will be filed at the Commission hearing as an Exhibit. Note: Several counties in Arkansas are divided into two Districts. Proper Notice must be published in a newspaper in the correct District to comply with the notice requirements.

EXHIBIT "G": Affidavit of Mailing. The company applying for integration or its attorney will be required to file an Affidavit that it forward notice of the filing of the application along with the required AOGC notice to each interested parties.

C. WILDCAT INTEGRATION

The interest of non-consenting mineral owners and leasehold owners cannot be integrated unless field rules have been established for the particular unit that is being integrated. There is an exception to this particular regulation of the Arkansas Oil and Gas Commission that has been statutorily enacted in Arkansas Code Section 15-7-302(e). This act provides that any drilling unit that is comprised of a governmental section, or the equivalent thereof, can be integrated regardless of whether or not field rules have been established for the unit, when an undivided fifty percent (50%) interest, or more, of the parties owning the right to drill agree to such integration. The procedure for integration is the same as set forth above other than the acquisition of the approval of fifty percent (50%) or more of the parties of the right to drill to proceed with such wildcat integration. Like all other Orders of the Arkansas Oil and Gas Commission, the Order for integration under these provisions is in effect for a period of one year following the effective date thereof or one year following the cessation of drilling operations, or production, within the unit. At the termination of such period, the Commission Order automatically terminates. See the Section on Exploratory Units (page 43) in this manual.

D. APPLICATION TO DRILL

Rule B-1 of the General Rules and Regulations of the Arkansas Oil and Gas Commission outlines the steps that must be taken to obtain a permit to drill.

Before drilling can take place, the operator must obtain a permit to drill from the Commission. The Commission will set out the form of the application and the fee to accompany the application. The permit issued by the Commission shall be numbered and that permit number shall at all times be displayed upon the derrick used in the drilling of the well. A well cannot

be located less than 280 feet from a lease, property, or quarter section line where no field rules have been established. In cases where field rules establish offset distances from unit lines, exceptions to such distances can be granted by the Arkansas Oil and Gas Commission upon formal application. When an exception is granted, the offset owner is given, as a matter of right, an equal distance offset.

In North Arkansas, units generally consist of a governmental Section. In the vast majority of the units, the location requirement is 1,320 feet from a unit line. An exceptional location of no closer than 660 feet from a unit line can be granted by the Arkansas Oil and Gas Commission upon proper application. An allowable penalty in such instances is assessed by using 1,320 feet as the denominator and the actual distance from the line as the numerator to establish a reduced allowable. Example: 660 feet actual over 1,320' establishes a fifty percent (50%) allowable.

Each application filed for purposes of securing a permit to drill must be accompanied by an Affidavit of Proof of Financial Responsibility. The applicant must state under oath that its assets exceed its liabilities. Arkansas Code Section 15-72-204. In lieu of the Affidavit, the applicant could file a bond in an amount approved by the Commission.

Notice of intent to drill must be given to the surface owner in accordance with Section 15-72-204 of the Arkansas Code. This act requires that such notice be given by certified United States mail or personally to the surface owner reflected in the records of the county tax collector.

E. SEVERANCE TAX CREDIT

Arkansas Code Section 15-72-701 grants to an operator a severance tax credit for one who discovers a commercial oil pool in Arkansas that has not heretofore been discovered. The credit against severance tax is as follows:

(a) Seventy-five percent (75%) of the severance tax for a period of five (5) years from the date of the certificate if the discovered pool is located above the base of the deepest producing oil formation in the County where the discovery well is located.

(b) Seventy-five percent (75%) of the severance tax otherwise due for a period of ten (10) years from the date of certificate if the discovered pool is located below the base of the deepest producing oil formation in the County or if there is no oil production in the County.

The application for the severance tax credit must be filed with the application for permit to drill the well. The sworn application for the severance tax credit must include the location of the proposed discovery well and a legal description of the land that is within the participating area which is owned by the applicant. The application for the severance tax credit is submitted to the Arkansas Oil and Gas Commission and, upon certification, will be forwarded to the Department of Finance and Administration, Revenue Service Division, State of Arkansas, for such credit.

XVI. POWERS OF ATTORNEY

A. GENERAL RULES REGARDING POWERS

A Power of Attorney has been defined as an instrument in writing, appointing an attorney in fact for a particular purpose, and setting forth his powers and duties. It is in the nature of an agency contract, and the rules on agency apply to the relationship of the principal to the agent and to the relationship of both the principal and agent to third parties who deal with the agent. As a general rule, the authority of the agent is never to be extended by mere construction beyond that which is expressly given or which is necessary and proper to carry out the authority so given.

A power of attorney to convey or to mortgage real estate must be in writing. Verbal authority of the owner of real estate to another to convey or mortgage real estate confers no power to do so. The power of attorney must be properly executed and acknowledged in the manner required for deeds, and most mortgage and title companies require it to be filed for record in the deed records in the county in which the lands are located.

One who acts through an agent is deemed in law to have done the act himself, and consequently, persons *non sul juris* are wholly or partially incapable of acting as principals. Persons *non compos mentis* are incapable of acting as principals, and where the principal is a minor, the acts of the agent would be voidable at his election.

B. RULE OF STRICT CONSTRUCTION

Powers of attorney, unlike deeds and wills, are strictly construed. The authority derived by the general grant of power is limited to the acts authorized by the language employed in granting the special powers. The meaning of general words in the power of attorney will be restricted by the context, and construed accordingly. The power of attorney will be construed so as to exclude the exercise of any power which is not warranted either by the actual terms used or as a necessary means of executing the authority granted.

Where a power of attorney enumerates specific acts which the agent is authorized to perform followed by broad general language such as: ". . . to do and perform any lawful act in or about or concerning my business, as fully and completely as if I were personally present, . . .," the meaning of the general language is restricted to the specific acts authorized, and consequently, authority to an agent to sell will not include a power to make an assignment for the benefit of creditors. A power to sell implies a power to sell for money only, and does not contemplate a conveyance for a merely nominal consideration.

C. EXECUTION OF INSTRUMENT BY AGENT

The instrument executed by the agent should name the principal as the grantor, and should be executed by the agent signing the principal's name to the deed and adding the words *by his attorney in fact* and accompanied by the signature of the agent.

The agent's deed need not refer to the power of attorney so long as it appears from the instrument that he did in fact act under and pursuant to the power conferred upon him to convey the property. But a deed or mineral lease by the agent purporting to act for himself individually, without naming the principal, will not convey or lease the title or interest of the principal.

D. POWER TO SELL AND CONVEY

The power of an agent to sell and convey real estate must be specific and expressly authorized. An agent's authority to sell real estate is not readily implied and exists only where the intention of the principal to give him such authority is clear. A real estate agent, who has authority to sell land, has no authority to convey. A power to sell *claims and effects* does not authorize the sale of land. A power to sell does not include by implication

the power to lease.

E. REVOCATION BY PRINCIPAL

Except where the agent's authority is coupled with an interest, the power of attorney is revocable at the will of the principal. The principal may, at any time, with or without reason, exercise this option to terminate the power given the agent. This power to revoke is not affected by the fact that there may be an express or implied contract between the agent and the principal that the agency is irrevocable, or that the power should continue for a stated period of time, or that the agency is supported by consideration. The principal has the power to terminate the agency though his acts may cause him to be liable to the agent under his contract. In only two instances will the revocation by the principal be ineffective. First, where a power of attorney is given to an agent to secure a debt due from the principal to the agent, the principal may not revoke the power without the consent of the agent, where the power is accompanied by a transfer of an interest in the subject matter thereof, by assignment, deed, or mortgage. Second, the principal has no authority to revoke a power where it is coupled with an interest in the subject matter thereof unless the power expressly provides for the right to revoke.

F. INSANITY OR DEATH OF PRINCIPAL

Generally, a power of attorney is revoked when the principal becomes insane unless the power of attorney is a durable power executed in accordance with the Arkansas Code. An agency ceases upon the death of the principal. Thus, a deed executed by the agent after the death of the principal is void and conveys no title. Such deed is void, even though it is executed before the death of the principal, if it is delivered after the principal's death. It should be determined that the principal was alive on the effective date of such conveyance or mineral lease

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Appendix A

SAMPLE ACKNOWLEDGMENTS

Short-form Single or Joint Acknowledgment

STATE OF ARKANSAS *
* **ACKNOWLEDGMENT**
COUNTY OF _____ *

This instrument was acknowledged before me on this [day] of [month], [year], by .

_____
Notary Public

_____
Notary's Printed Name
My Commission Expires:
_____

==========

Long Form Single Acknowledgment

STATE OF ARKANSAS *
* **ACKNOWLEDGMENT**
COUNTY OF _____ *

BE IT REMEMBERED that on this day came before me, the undersigned, a Notary Public within and for the County and State aforesaid, duly commissioned and acting, **[Grantor]**, to me well known as GRANTOR in the foregoing instrument, and acknowledged that he/she had executed the same for the consideration and purposes therein mentioned and set forth.

WITNESS my hand and seal as such Notary Public on this .day of _____, 200.

_____
Notary Public

_____
Notary's Printed Name
My Commission Expires:
_____

==========

Long Form Joint Acknowledgment

STATE OF ARKANSAS *
* **ACKNOWLEDGMENT**
COUNTY OF _____ *

BE IT REMEMBERED, that on this day came before me, the undersigned, a Notary Public within and for the County and State aforesaid, duly commissioned and acting, _____ and wife,_____, to me well known as **GRANTORS** in the foregoing instrument, and acknowledged that they had executed the same for the consideration and purposes therein mentioned and set forth.

WITNESS my hand and seal as such Notary Public on this _____day of _____, 200__.

_____
Notary Public

_____
Notary's Printed Name

My Commission Expires:
_____

==========

Short-form Corporate (or Partnership) Acknowledgment

STATE OF ARKANSAS *
* **ACKNOWLEDGMENT**
COUNTY OF _____ *

This instrument was acknowledged before me on this [day], of [month], [year], by , the of , a [state of incorporation], on behalf of said corporation.

_____
Notary Public

_____
Notary's Printed Name
My Commission Expires:
_____

==========

Corporate Acknowledgment - 1 officer

STATE OF ARKANSAS *
* **ACKNOWLEDGMENT**
COUNTY OF _____ *

On this day, before me, the undersigned, a Notary Public, duly commissioned, qualified, and acting, within and for said County and State, appeared in person the within named **[Name of Officer]**, to me personally well known, who stated that he is the **[Position of Officer]** of **[Grantor]**, a **[state of incorporation]** corporation, and was duly authorized in **his/her** capacity to execute the annexed and foregoing instrument for and in the name and behalf of said corporation, and further stated and acknowledged that **he/she** had so signed, executed, and delivered said foregoing instrument for the consideration, uses, and purposes therein mentioned and set forth.

WITNESS my hand and seal as such Notary Public on this _____day of _____, 200__.

_____
Notary Public

_____
Notary's Printed Name

My Commission Expires:
_____

==========

Corporate Acknowledgment - 2 officers

STATE OF ARKANSAS *
* **ACKNOWLEDGMENT**
COUNTY OF _____ *

On this day, before me, the undersigned, a Notary Public, duly commissioned, qualified, and acting, within and for said County and State, appeared in person the within named **[Officer.1]** and **[Officer.2]**, to me personally well known, who stated that they are the **[Position of Officer.1]** and **[Position of Officer.2]** of **[Grantor]**, a **[state of incorporation]** corporation, and were duly authorized in their respective capacities to execute the annexed and foregoing instrument for and in the name and behalf of said corporation, and further stated and acknowledged that they had so signed, executed, and delivered said foregoing instrument for the consideration, uses, and purposes therein mentioned and set forth.

WITNESS my hand and seal as such Notary Public on this _____day of _____, 200__.

_____
Notary Public

_____
Notary's Printed Name
My Commission Expires:
_____

==========

Partnership Acknowledgment

STATE OF ARKANSAS *
* **ACKNOWLEDGMENT**
COUNTY OF _____ *

BE IT REMEMBERED that on this day came before me, the undersigned, a Notary Public, within and for said County and State aforesaid, duly commissioned and acting, **[Name of Partner]**, a partner in that certain partnership known and identified as **[Partnership]**, and acknowledged that h**e/she** had executed the same in behalf of said partnership for the consideration and purposes therein mentioned and set forth.

WITNESS my hand and seal as such Notary Public on this _____ day of _____, 200__.

_____
Notary Public

_____
Notary's Printed Name
My Commission Expires:
_____

==========

Foreign Country Acknowledgment

[CITY], [COUNTRY], [CONTINENT] *
* **ACKNOWLEDGMENT**
EMBASSY OF THE *
UNITED STATES OF AMERICA

Before me, the undersigned authority, a _____ of the United States of America, resident in the City of **[City]**, **[Country]**, duly commissioned and qualified, on this day personally appeared **[GRANTOR]**, known to me to be the person(s) whose name(s) **is/are** subscribed to the foregoing instrument and acknowledged to me that **he/she/they** executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this _____ day of _____, 200__.

_____
Printed Name:
_____
of the United States of America, **[City]**, **[Country]**

==========

Military Acknowledgment

IN THE ARMED FORCES OF)
THE UNITED STATES OF)
ACKNOWLEDGMENT
AMERICA, with the (Branch at (Country)

I, **(Officer)**, being a **(rank)** in the United States **(Branch)**, whose serial number is _____, and being a duly Commissioned Officer of the Armed Forces of the United States of America, do hereby certify that on this ____ day of _____, 200__, before me personally appeared *** **[Grantor]**, **(Rank/Branch)** whose serial number is _____, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed the same for the purposes and consideration therein expressed.

IN WITNESS WHEREOF I have hereunto set my hand this day and year last above written.

_____
Name:_____
Title:_____
of the United States of America

My Commission Expires:
_____

***If this acknowledgment is made by the husband or wife of the member, change this part to read: (name) , spouse of (name) , (branch) .

==========

Acknowledgment for signature by "mark"

SSTATE OF ARKANSAS *
* **ACKNOWLEDGMENT**
COUNTY OF _____ *

BE IT REMEMBERED, That on this day came before me, the undersigned, a Notary Public within and for the County and State aforesaid, duly commissioned and acting **[Grantor]**, **Grantor** in the foregoing instrument, and acknowledged that **he/she** had executed the same by **his/her** mark, in my presence and in the presence of ____ and ____, as witnesses, for the consideration and purposes therein mentioned and set forth.

WITNESS my hand and seal as such Notary Public on this ____ day of _____, 200__.

_____
Notary Public

_____
Notary's Printed Name

My Commission Expires:
_____

Appendix B

COMMON OIL & GAS LEASE CLAUSES

1. ABSTRACTS

1.1 If Lessor's abstracts are used for title examination purposes by Lessee, which right is granted by Lessor, Lessee shall, at its sole cost and expense, cause a supplemental abstract to be made covering the lease premises through the date of this Lease. When Lessee completes the title examination process, all abstracts shall be returned to Lessor and any new or supplemental abstract obtained by Lessee shall become the property of Lessor. Lessee shall furnish Lessor a copy of any title opinion prepared for Lessee which covers all or any part of the lease premises.

2. ACCEPTANCE OF TERMS BY LESSEE'S ASSIGNS

2.1 Any party acquiring an interest in this Lease, by an assignment from Lessee, shall be bound by all of the terms and provisions to the same extent as the Lessee is bound. Any assignment of the Lease by Lessee shall provide that it is made subject to the terms and provisions of this Lease and the assignee in each assignment accepts the assignment subject to all the terms and provisions of the Lease.

3. ASSIGNMENTS OF THE LEASE

3.1 No assignment of this Lease by Lessee shall be effective until notice of the assignment (which shall include the name and address of the assignee and the interest assigned) is delivered to Lessor.

3.2 If Lessee assigns all or any portion of the leasehold estate created by this Lease, the assignment shall not be effective until Lessor has been furnished with a certified copy of the instrument assigning the interest.

3.3 Lessee shall notify Lessor of any change in the operator responsible for activities on the lease premises at least ____ days in advance of any change of operator. On request, Lessee shall promptly provide Lessor information concerning any assignees of Lessee's interest in this Lease (including, without limitation, those parties holding an interest under any farmout agreement or other instrument, recorded or unrecorded), the interest held by an assignee and either the recording data of the pertinent instrument which assigns as interest to an assignee or a copy of the instrument. If the information pertaining to assignees is not provided within ____ days of request from Lessor, Lessee shall be responsible for paying for all costs and expenses incurred by Lessor in obtaining the information and for all damages resulting from the delay in obtaining the information.

3.4 No assignment or sublease of all or any part of this Lease shall operate to relieve Lessee of any obligations as to the interest assigned or sublet unless the assignment or sublease has been made with the express written consent of Lessor or consent has been waived as provided below. If Lessee or any subsequent assignee or sublessee desires to obtain the consent of Lessor to any assignment or sublease, the Lessee or subsequent assignee or sublessee shall notify Lessor in writing of the proposed assignment or sublease, which notice shall specify the name and address of the proposed assignee or sublessee and the interest proposed to be assigned or sublet. Lessor shall have ____ days after the receipt of the notice within which to object to the assignment or sublease. If Lessor does not object in writing within the ____ day period, it shall be conclusively deemed that Lessor's right to consent or object has been waived and the assignment or sublease is approved by Lessor. Any objection must be based upon reasonable grounds, which must be specified in Lessor's written objection. If an objection is arbitrary and not based upon reasonable grounds, the objection shall be ineffective and it shall be deemed that no objection was made within the time provided.

4. BREACHES OF LEASE TERMS

4.1 If Lessee violates, fails to perform or breaches any terms or covenants in this Lease, Lessor shall notify Lessee in writing of the violation, failure, or breach. Lessee shall have a period of ____ days from the date of its receipt of Lessor's written notice, in which to remedy the violation, failure, or breach. If Lessee fails or refuses to remedy the violation, failure, or breach within the prescribed time period, Lessor may, at its sole option, terminate this Lease as to all of the lease premises. Following the termination of this Lease, Lessee shall continue to be liable to Lessor for any damages, costs, or expenses, including, but not limited to, attorney's fees incurred by Lessor in connection with or related to the violation, failure, or breach.

4.2 This Lease shall never be terminated, forfeited, or canceled for Lessee's failure to perform, in whole or in part, any of the covenants, conditions, obligations and requirements set forth in this Lease, until Lessee, after written notice by Lessor, has been given a reasonable period of time within which to comply with the covenant, condition, obligation, or requirement.

5. CONFLICTS BETWEEN PRINTED FORM AND TYPED TERMS

5.1 In the event of a conflict or inconsistency between the printed terms of this Lease and the typed terms of this Lease, the typed terms shall control.

6. CONVERSION OF AN OIL OR GAS WELL TO AN INJECTION OR WATER WELL

6.1 Lessee shall not have the right to convert any well or well bore on the lease premises to a salt water disposal well or dispose of salt water in any well or well bore on the lease premises that is no longer capable of producing oil or gas.

6.2 Without the written consent of Lessor a well drilled on the lease premises shall not be converted or used for any purpose other than the production of oil, gas or associated hydrocarbons. Notwithstanding this limitation, Lessee has the right, without the necessity of obtaining the consent of Lessor, to convert any well located on the lease premises to a salt water and brine disposal well for the disposal of salt water and brine actually produced from wells located on the Lease. Salt water and brine produced from wells located off the Lease shall not be disposed of into a converted well. Any salt water and brine disposal wells shall be operated by Lessee in accordance with governmental rules and regulations, the other provisions of this Lease, and in such a manner so as not to damage the surface of the lease premises, fresh water subsurface strata and formations, or other subsurface oil and gas bearing formations.

6.3 Lessee is granted the right to convert any oil and/or gas wells located on the lease premises, whether the wells were drilled by Lessee or existed prior to the date of this Lease, to water or carbon dioxide injection wells, for use in primary, secondary, or tertiary recovery operations conducted by Lessee. In addition to the conversion rights, Lessee is granted the right to move onto or construct on the lease premises the necessary equipment and personal property to enable it to conduct its oil and gas exploration and recovery operations.

7. DEDUCTIONS FROM ROYALTY

7.1 Royalties shall be paid without deductions for the costs of producing, gathering, storing, separating, treating, dehydrating, compressing, transporting, or otherwise making the oil and/or gas produced from the lease premises ready for sale or use. All oil and/or gas royalty shall be delivered free of cost into the tank or pipeline (for oil) and into the pipeline (for gas), with the exception of Lessor's prorata share of any taxes, measured by volume, on the oil and/or gas royalty.

7.2 Lessor's royalty shall never bear or be charged with, directly or indirectly, any part of the costs or expenses of production, gathering, dehydration, compression, transportation, manufacturing, processing, treating, or marketing of oil and/or gas produced from the lease premises. There shall be no deductions from Lessor's royalty for costs and expenses associated with the construction, operation or depreciation of any pipeline, gathering system, plant or other facility or equipment for processing or treating oil and/or gas produced from the lease premises.

8. DEPTH LIMITATION

8.1 This Lease only covers those subsurface depths between the intervals from ____ feet to ____ feet beneath the surface of the ground. This Lease does not cover any depths from the surface of the ground to ____ feet, or below ____ feet from the surface of the ground. Those depths are expressly excepted from this Lease and reserved by Lessor.

9. DIVISION ORDERS

9.1 If production is obtained from the lease premises, Lessee shall promptly issue division orders. None of the provisions contained in the division order shall diminish, alter, or affect the rights, titles, or interests vested in Lessor by the terms of this Lease. Lessor has the unilateral right to accept or reject any or all of the provisions contained in the division orders. Lessor's refusal to accept any division order provisions shall not allow Lessor or any oil or gas purchaser to withhold prompt payment of royalties due Lessor.

10. DRILLING REQUIREMENTS

10.1 Lessee is obligated to commence, or cause to be commenced, drilling operations on a well (the "Test Well") on or before (time period) from the date of this Lease. "Drilling Operations" means moving onto a drill site location on the lease premises a drilling rig of sufficient size and capability which will enable a well to be drilled to a depth sufficient to test the ____ formation. The Test Well must be drilled in a good and workmanlike manner to a depth sufficient to adequately test the ____ formation. Total depth must be reached within ____ days of the commencement of Drilling Operations. If Lessee fails to timely commence the Test Well, or having timely commenced the Test Well, Lessee fails to drill to the required depth within the required ____ day period, this Lease will automatically terminate. If Lessee timely drills to the required formation and the Drilling Operations result in a commercially productive well, then all of the lease premises shall be deemed to continue to be subject to this Lease without the further payment of delay rentals or additional Drilling Operations (although development wells that a prudent operator would drill will still be required to be drilled) as long as the Test Well produces oil and/or gas in paying quantities.

11. EXECUTION OF LEASE BY LESS THAN ALL LESSORS

11.1 This Lease may be executed in one document signed by all of the Lessors or in separate documents which shall be deemed counterparts. If signed in separate counterparts, all counterparts, when executed by the Lessors, shall constitute one and the same instrument. The failure of any one or more Lessors to sign this Lease or any counterpart, shall not in any manner affect the validity and binding nature of this Lease as to those Lessors who sign it. Lessors grant to Lessee the right to combine all signature and acknowledgments pages into one instrument for recording purposes.

12. OPTION TO EXTEND THE PRIMARY TERM OF THE LEASE

12.1 In addition to the cash bonus which has been paid to Lessor for the execution of this Lease, Lessee shall have the right, but not the obligation, on or before ____ days prior to the end of the primary term of this Lease, to pay Lessor an additional bonus consideration in the amount of $____ per net mineral acre owned by Lessor which shall extend the primary term of this Lease for an additional ____ year(s), commencing at the expiration of the initial primary term. In the drilling or reworking operations are commenced on or before the expiration of the primary term, which results in either production (whether commercial or noncommercial) or a dry hole, the ____ year lease extension provided in this paragraph shall be deemed earned by Lessee and the completion of a producing well or a dry hole shall be in lieu of payment of the additional bonus consideration. Extension of this Lease by the payment of additional bonus, or by the completion of a producing well or a dry hole, shall cause this Lease to become a "Paid-up Lease" with no annual rentals being required to maintain this Lease in effect during the extended term. For the purposes of this paragraph, the term "commenced" shall mean that Lessee shall have a rig on location capable of drilling to a depth sufficient to test the ____ formation. The drilling rig must be on location on or before the expiration of the primary term of this Lease. Failure to pay the additional bonus or commence drilling or reworking operations in accordance with this paragraph shall cause this Lease to terminate.

12.2 Lessee may extend the primary term of this Lease by electing to increase the royalty provided in paragraph ____ of the printed portion of this Lease from ____ to ____ . If Lessee makes this election it shall be: (i) made prior to the expiration of the primary term of this Lease; (ii) evidenced by written notice mailed to Lessor by certified mail, return receipt requested, bearing a postmark which predates the termination of the primary term of this Lease; and, (iii) at the option of Lessee and not required under the terms of this Lease. If Lessee exercises this election, the primary term of the Lease shall be automatically extended for a period of ____ and the royalty automatically increased from ____ to ____. The extension of the primary term and the increase of the royalty shall be evidenced by Lessee filing an affidavit giving notice of the

Lessee's election in the records of the county in which the lease premises are located.

13. FENCES, GATES, CATTLE GUARDS, ROADS, BRIDGES, AND CULVERTS: CONSTRUCTION, USE AND MAINTENANCE

13.1 Any bridge, culvert, or road Lessee constructs or installs on the lease premises shall be maintained intact and in good condition during the term of this Lease. On the termination of this Lease, all of Lessee's rights, title, and interests in any bridge, culvert, or road shall pass to and become vested in Lessor without further consideration, or the execution of any instruments of transfer or conveyance.

13.2 The owner of the surface of the lease premises and Lessee must agree on the location of any cut in a fence prior to a fence being cut. Lessee shall construct proper and sufficient braces at any point where fences are to be cut, prior to cutting. Braces shall be constructed so that slack will not develop in existing fences. Surface owner and Lessee must agree on the location and type of cattle guards and gates installed by Lessee (which installation shall be at the sole cost of Lessee) in each fence that is crossed by Lessee. Cattle guards and gates shall remain on the lease premises following termination of this Lease and shall become the property of the surface owner. During the term of this Lease all cattle guards and gates installed or used by Lessee shall be cleaned, maintained, repaired, and/or replaced as needed, by Lessee, at its sole cost and expense.

13.3 Lessee shall consult with Lessor regarding the location of all roads built on the lease premises. All cattle guards, fence corners, and fence braces installed by Lessee will be built to Lessor's reasonable specifications. All roads used by Lessee will be caliched and maintained in a good condition. Lessee agrees to periodically water roads used by it during periods of high levels of traffic, and at other times, to prevent excess dust and erosion of the roads. Lessee agrees that all cattle guards installed shall be constructed in a manner to prevent livestock from crossing and shall be constructed so that there is a lockable "swing gate." On termination of the Lease, all cattle guards and gates installed by Lessee shall be owned by Lessor.

13.4 Lessee shall fence all producing well sites, drillsites, pits, and tank battery locations which Lessee may create or cause to be located on the lease premises. The fences shall be sufficient to turn livestock.

13.5 Prior to constructing easements (including points of ingress and egress) for tank batteries, roads, pipelines, and other improvements (other than drillsites), Lessee shall consult with Lessor so that they can be located, insofar as reasonably practical, to cause minimum interference with Lessor's surface operations and use of the land. Lessee shall use existing roads and gates whenever possible. If it is necessary for Lessee to cut interior fences, Lessee will install cattle guards at the location of the cuts and will reinforce the fences.

14. FRESH WATER PROTECTION

14.1 In all wells drilled on the lease premises, a sufficient amount of surface casing shall be set and cemented to properly protect all fresh water formations which are now, or may be, a source of water supply. "Sufficient amount of surface casing," as used in this paragraph, shall mean that amount of surface casing required to reach the depth recommended by the appropriate governmental authority having jurisdiction to protect all fresh water formations which are currently found, or may be found, on the lease premises. Under no circumstances shall Lessee use less than the full amount of surface casing required by this paragraph.

15. FRESH WATER USE: LIMITATIONS

15.1 Lessee shall have no right to use fresh or potable water from the surface or subsurface of the lands subject to this Lease for secondary or tertiary recovery purposes. Lessee shall only have the right to use fresh or potable water for primary drilling purposes. However, Lessee shall not have the right to use fresh water from or located in any irrigation well or windmill located on the lands without the prior written consent of Lessor.

15.2 Lessee shall not use water from Lessor's wells, ponds, lakes, or reservoirs located on the lease premises. However, subject to the other provisions of this paragraph, Lessee shall have the right to drill one or more water wells on the lease premises and to use water from those wells for drilling, reworking, deepening, and/or remedial work on the Lease. The water from those wells shall not be used for the purposes of water injection or secondary recovery without the written consent of Lessor. Lessee shall not drill or operate a water well, take water, or inject any substance in the subsurface in such a manner that will damage any of Lessor's water wells, water supply, or which would interfere with or restrict the supply of water to Lessor or its tenants for domestic, livestock, agricultural (including irrigation) purposes, or which would do injury to any potable ground water supply. In drilling oil and/or gas wells, Lessee shall advise Lessor of any fresh water-bearing formations encountered and shall, upon request, furnish Lessor copies of all logs made by Lessee from the surface of the ground to the bottom of the surface casing.

16. GAS PRICES AND SALES CONTRACTS

16.1 If Lessee enters into a gas sales contract for the sale of gas (including casinghead gas and/or other gaseous substances) produced from or attributable to the lease premises with a purchaser which is owned or controlled by, is an affiliate or subsidiary of Lessee, or of which Lessee is a subsidiary, then the royalties on the gas payable by Lessee, shall be calculated and paid on the basis of the market value of the gas. The term "market value" means the average of the three highest prices being paid for gas of like quantity, quality, and delivery pressure at the wellhead of wells (similarly located with respect to a pipeline owned or operated by bona fide purchasing companies) located in the county in which the lease premises are located, under existing contracts of like duration which are entered into within one year of the effective date of the Lessee's gas sales contract for the purchase of gas and/or casinghead gas from a well on the lease premises or lands pooled with the lease premises.

16.2 In the negotiation and execution of any gas sales contract, Lessee shall use its best efforts to obtain the highest price available in the market area for any gas produced and sold from the lease premises. Lessee shall not enter into any gas sales contract covering the lease premises where Lessee agrees to sell gas produced to a company in which Lessee owns an interest, whether legal or beneficial, or a company of which Lessee is the parent company or a subsidiary company, unless the price to be paid under the gas sales contract is equal to or greater than the highest price offered or being paid by any other purchaser of gas in the area. If gas produced from the lease premises is sold under more than one gas sales contract, Lessor shall be paid its share of royalty gas based upon the average of

the prices provided in the contracts. Lessor shall always be a necessary party to any gas sales contract which covers Lessor's share of royalty gas from the lease premises.

16.3 Lessee shall furnish Lessor a copy of all gas sales contracts under which gas produced from the lease premises is sold or processed, and all subsequent agreements, supplements, and amendments to those contracts.

16.4 Lessee, in its negotiations for the sale of gas produced from the lease premises, shall not enter into any gas purchase contract with a purchaser in which Lessee is vested with legal or beneficial ownership or of which Lessee is the parent or subsidiary company, unless the price to be paid under the gas purchase contract is equal to or greater than the average of the two highest prices then being paid in the general area for gas of comparable quality, quantity and deliverability.

17. GEOPHYSICAL OPERATIONS

17.1 This Lease does not grant Lessee the right to conduct geophysical exploration by means of seismograph, vibroseis or similar techniques on the lease premises. Lessee may conduct surveys in drilled well bores, such as electric logs, pressure tests, gas analysis, or similar techniques.

17.2 The written consent of Lessor is required before Lessee may conduct any seismic or other geophysical operations on the lease premises within 1000 feet of any existing water well.

17.3 If geophysical exploration operations are conducted on this Lease, all shot holes shall be kept a sufficient distance away from Lessor's water wells so as not to cause any damage to the water wells. Lessee shall promptly plug all shot holes with concrete plugs set below plow depth, fill the holes with dirt on top of the plugs, and restore the surface of the lease premises to substantially the same condition it was in prior to the commencement of the geophysical operations.

18. INDEMNIFICATION OF LESSOR

18.1 Lessee shall indemnify and hold Lessor harmless from any and all liability, liens, demands, judgments, suits, and claims of any kind or character arising out of, in connection with, or relating to Lessee's operations under the terms of this Lease, including, but not limited to, claims for injury to or death of any persons, or damage, loss or destruction of any property, real or personal, under any theory of tort, contract, or strict liability. Lessee further covenants and agrees to defend any suits brought against Lessor on any claims and to pay any judgment against Lessor resulting from any suit or suits together with all costs and expenses relating to any claims, including attorney's fees. Lessor, if it so elects, shall have the right to participate in its defense in any suit or suits in which it may be a party, without relieving Lessee of the obligation to defend Lessor.

18.2 Lessee agrees to defend, protect, indemnify and hold Lessor harmless from and against each and every claim, demand, cause of action, liability, cost, expense, damage or loss, including, but not limited to, attorney's fees incurred by Lessor, that may be asserted against or borne by Lessor arising from or on account of any operation conducted by Lessee, its agents, contractors, employees, licensees, or invitees, on the lease premises.

19. INFORMATION: DRILLING AND PRODUCTION; DOCUMENTATION; REPORTS TO BE FURNISHED TO LESSOR

19.1 Lessee shall furnish Lessor copies of all electrical logs, coring records, drill stem test results, daily drilling reports, and drilling mud analysis logs from any well drilled on the lease premises. Lessee shall provide Lessor true and correct information on each well drilled on the lease premises, its production, and any technical information Lessee may acquire with respect to the sands, zones, and formations encountered in any well. The documentation and reports shall be furnished to Lessor within ____ days after their receipt by Lessee. Lessor shall have the right: (a) to be present when tanks are gauged and measured; (b) to examine, at all reasonable times, all run tickets; and, (c) to obtain full information about production and copies of all reports filed with the applicable governmental agencies concerning production and volumes of sales from the lease premises. Lessee shall obtain and furnish Lessor the results and materials from all gamma ray sonic or gamma ray neutron logs, micrologs or microlaterologs, and any induction or laterologs or their commercial equivalents which have been obtained from any well or wells on the lease premises. Lessee shall furnish all information, documentation, and reports, without cost to Lessor. All of the information will be furnished to Lessor without any warranty by Lessee and shall be used by Lessor at its sole risk. Lessor agrees to maintain the confidentially all such information, documentation and reports for a period of ____ from the date the information, documentation, or reports are furnished to Lessor.

19.2 Lessee shall furnish Lessor copies of all drilling and production logs, test reports filed with governmental agencies, and contracts for the sale of production.

20. ACCESS BY LESSOR TO OPERATIONAL AREAS

20.1 Lessor shall have access, at all reasonable times, at Lessor's sole risk, to inspect the derrick floor of all wells drilled on the lease premises as well as all other operational areas around equipment and structures located on the Lease.

20.2 Lessor, or its representatives, shall have access at any time and from time to time to all producing wells on the Lease and to the storage tanks into which the production from wells is being run, for the purpose of inspecting operations and gauging production. Lessor may, at any time after notice to Lessee, install and maintain flow meters on any or all producing wells for the purpose of measuring production. Lessor understands that entering on the lease premises for the purposes provided in this paragraph is done so at Lessor's sole risk, and Lessor indemnifies and holds Lessee harmless from any claims, demands, actions, or suits which may arise out of injuries or damages resulting from Lessor's access to and activities on the lease premises.

21. LIMITATION ON SUBSTANCES COVERED BY LEASE.

21.1 This Lease covers only oil and gas. The terms oil and gas are defined as liquid hydrocarbon substances and gaseous substances, inclusive of substances in solution or held in suspension, which are necessarily produced along with, or as an incidental byproduct of oil or gas. All other minerals in, on, or under the lands that are the subject of this Lease are expressly reserved by Lessor.

22. LITIGATION COSTS

22.1 Lessee shall pay all reasonable attorney's fees incurred by Lessor in connection with any lawsuit in which Lessor prevails, by final adjudication and judgment, which suit results from Lessee's failure to perform its obligations provided

for in this Lease, or Lessee's breach of the covenants implied or contained in this Lease.

23. LIVESTOCK PROTECTION

23.1 A portion of the lease premises is being used for ranching operations. During drilling operations, Lessee agrees to take all reasonable measures to protect the livestock located on the lease premises so none of the livestock are injured or killed. In the event any livestock are injured or killed during drilling operations, Lessee shall have an opportunity to have a veterinarian examine the injured or dead animal to determine the cause of the death or injury. If the cause of injury or death is, in the opinion of the veterinarian, the result of Lessee's operations on the lease premises during the time drilling was being prosecuted, Lessee shall pay Lessor for the livestock injured and/or killed. Any payment is to be in an amount equal to the reasonable market price for the livestock. After drilling operations have ended and a well is completed and producing on the lease premises, Lessee agrees to fence all wells with a fence of sufficient strength to turn livestock. Lessee agrees to keep all fences in good repair at all times. If any livestock is injured or killed as the result of post-drilling operations on the lease premises, such injury or death shall be compensated in the manner provided in this paragraph.

24. LOCATION OF WELLS, LINES, ROADS, TANK BATTERIES, AND OTHER STRUCTURES

24.1 No road shall be made, used, or constructed without first obtaining the written consent of the surface owner as to the location or use of the road. All roads made, used, or constructed by Lessee shall be terraced in such a manner to best control and prevent erosion and shall be maintained in a good and workmanlike manner, in a state of repair equal to or better than that which existed on the date of this Lease. Whenever practical, Lessee shall utilize existing roads in conducting its operations. Any new roads built by Lessee shall be located to provide the least interference with any terracing of lands that are under cultivation.

24.2 Lessee agrees to consult with the surface owner regarding the placement of all roads, lines, tank batteries, and other structures, and to locate all of them at such locations that will minimize the interference with the surface use of the land for farming and ranching purposes. In its operations, Lessee will use reasonable efforts to reduce the risk of soil erosion. Lessee will not be prevented from exercising reasonable use of the surface of the lease premises in order to accomplish the purposes of this Lease.

24.3 Lessee shall conduct all its operations in such a manner that causes the least inconvenience and interference with Lessor's use of the surface. All surface locations selected by Lessee, including without limitation all drillsites, tank batteries, roads, and pipelines, shall be at locations approved by Lessor, if Lessor owns the surface, which approval shall not be unreasonably withheld.

25. MAINTENANCE OF OPERATIONAL AREAS AND CONTROL OF DEBRIS AND WEEDS

25.1 All drill sites, well locations and other portions of the surface of the lease premises shall be kept free of weeds, noxious vegetation, and debris generated by Lessee's operations. While debris may be temporarily stored in pits, Lessee shall not leave, abandon, or cover over any debris at the termination of operations or this Lease, but shall remove all of it from the lease premises.

25.2 Lessee shall, as it accumulates, remove from each well site, tank battery location, roads used by Lessee, pipeline rights-of-way, and other operational sites, all discarded materials and debris of every kind. Lessee shall keep each well site, tank battery location, roads used by Lessee, and all other operational sites in a clean, neat, and orderly condition throughout the term of this Lease.

26. ROYALTY PAYMENTS: MINIMUM PAYMENTS

26.1 Lessee shall pay Lessor a "Minimum Royalty" of not less than $____ per surface acre of the lands covered by this Lease. On the first anniversary date of this Lease, and annually as long as this Lease is in effect, Lessee shall compute the dollar value of all royalties paid under the provisions of paragraph ____ of the printed portion of this Lease (less all pertinent production taxes). The value of the royalty paid shall be added to any delay rentals paid under the provisions of paragraph ____ of the printed portion of this Lease (during the primary term) and, if any, shut-in gas royalty payments made under the terms of this Lease. These combined amounts are deemed the "Total Royalty." If the Total Royalty exceeds the Minimum Royalty, the provisions of this paragraph shall not be applicable. If the Total Royalty is less than the Minimum Royalty, then within ____ days of the pertinent anniversary date of the Lease, Lessee will pay Lessor a sum of money equal to the difference between the Minimum Royalty and the Total Royalty for the year. Lessee shall include with each payment an accounting setting forth in full all particulars of the computation of the Total Royalty and the Minimum Royalty. If Lessee fails to make this payment to Lessor and provide an accounting within the time period specified, then within ____ days after receipt of Lessor's notice making demand on Lessee for payment, unless Lessee makes the payment called for in this paragraph, this Lease shall terminate automatically. For the purposes of this paragraph, the date of "receipt of Lessor's notice" by Lessee shall be deemed the date of the postmark on the notice letter. Although the payment of Minimum Royalty applies both during and after the primary term, this Lease cannot be maintained in full force and effect by the payment of Minimum Royalty unless proper payments of delay rentals are made during the primary term, and production in paying quantities (or shut-in gas royalty payments), drilling, or reworking operations exist after the primary term. The payment of Minimum Royalty is subject to the "proportionate reduction" provision contained in paragraph ____ of the printed portion of this Lease.

26.2 If, after the discovery and commencement of production of oil and/or gas from the lease premises, the royalties paid to Lessor during any 12-month period shall be less than Lessor would have received as delay rentals as provided for in paragraph ____ of this Lease, this Lease shall automatically terminate unless Lessee pays Lessor, within ____ days after the anniversary date of the commencement of production (which is defined for the purposes of this paragraph as the date of first sales of any production to a purchaser), a sum equal to the difference between the royalties actually paid and the amount Lessor would have received as delay rentals. The obligation to make this payment, to maintain this Lease, shall continue both during and after the primary term.

27. OFFSET WELL PROTECTION AND PAYMENT OF COMPENSATORY ROYALTY

27.1 Lessee, as a reasonable and prudent operator, shall protect the oil and gas under the lease premises from drainage from wells on adjacent lands and leases. Lessee shall drill on the lease premises as many wells as the facts justify, to depths necessary, for effective protection of the lease premises against any drainage. The bonus, delay rentals, and royalties to be paid

under the terms of this Lease shall not relieve Lessee from the obligations expressed in this paragraph.

27.2 If a well, producing oil or gas in paying quantities, is completed after the date of this Lease, within _____ feet of the lease premises or within an adjoining producing or proration unit ("Unit") (as allocated for production purposes for each well under the rules and regulations of the governmental agency having jurisdiction) to the lease premises, Lessee shall commence drilling an offset well on the lease premises within _____ days after the first sale of production from the off-premises Unit well and to drill the lease premises well with due diligence and in a workmanlike manner into the same formation under the lease premises from which the off-premises well is producing. Failure to drill the offset well in a proper and timely manner in accordance with this provision shall cause this Lease to terminate automatically as to those formations from which production is being obtained from the off-premises well under that part of the lease premises not located within a commercially productive producing or proration unit.

28. PIPELINE EASEMENTS

28.1 This Lease shall not be deemed to grant Lessee a blanket easement for pipelines across the lease premises. Specific easements for the construction of necessary pipelines will be granted by Lessor to Lessee, as needed, following a written request to Lessor from Lessee. Each written request shall contain a plat, by a licensed surveyor, which sets out the location, course, and distance of the proposed pipeline easement. A pipeline on all easements approved by Lessor shall be constructed and buried in compliance with the printed provisions of this Lease.

28.2 This Lease is subject to all previously granted valid and existing pipeline easements. The exercise of the easement rights granted to Lessee in this Lease is subject to the existence of those pipeline easements.

29. PIPELINES: LAYING AND BURYING

29.1 All pipelines, flow lines, power lines, and other lines which Lessee may place on cultivated land shall be buried so that the top of the line is more than ____ inches below the surface of the ground. All lines laid on uncultivated land shall be buried beneath the surface of the ground.

29.2 Any lines, including, but not limited to, electric, water, and oil and gas lines that may be located on the lease premises, shall be buried to a sufficient depth to allow the use of deep plowing equipment for agricultural purposes. This will require the covering of the top of any line by at least ____ inches of soil. Any rock that may be brought to the surface in connection with laying any line shall be placed back in the ditch below deep plowing depth. Large amounts of rock that will interfere with the cultivation of the soil shall be removed from the lease premises by Lessee.

30. PLUGGING REQUIREMENTS

30.1 Lessee shall properly plug all wells drilled on the lease premises in accordance with all statutes, rules, regulations, requirements, and orders of any governmental authority having jurisdiction. Lessee shall fully defend, protect, indemnify, and hold Lessor harmless from and against each and every claim, demand, or cause of action, expense, or liability, including, without limitation, any attorney's fees incurred by Lessor, that may be asserted against or borne by Lessor arising from Lessee's failure to plug or properly plug any well drilled on the lease premises. This covenant and Lessee's obligation to indemnify and hold Lessor harmless shall survive the expiration or termination of this Lease and shall be binding on all of Lessee's heirs, successors and assigns.

30.2 Upon the completion as a dry hole or abandonment of any well drilled by Lessee, it shall, within (Time Period) after the expiration of this Lease, plug all wells in compliance with the rules and regulations of the pertinent governmental agency having jurisdiction. Lessee agrees to cut off the casing in each plugged well at least ____ feet below the surface of the ground and to level the surface of the ground to Lessor's satisfaction.

31. RESERVATION OF A CALL ON OR PREFERENTIAL RIGHT TO PURCHASE PRODUCTION BY LESSOR

31.1 Lessor reserves the right and it or its agents or nominees shall have the option, exercisable at any time and from time by delivery of ____ days written notice, to purchase all or any part of the oil and gas or either of them produced from this Lease, including all of Lessee's share of production. The purchase of production shall be at the current market price, when produced, which is paid for oil or gas of like gravity, quality and deliverability in the field where the lease premises are located. If Lessor elects to sell the oil or gas purchased by it under the terms of this paragraph at the well, the market price payable to Lessee shall be the amount realized by Lessor from the sale. Lessor's option to purchase oil and gas shall prevail over any conflicting provisions of any operating agreement, unit operating agreement, or other agreement or document which affect the lease premises and which are executed subsequent to the date of this Lease.

32. POOLING AND LEASE TERMINATION ON LANDS AND DEPTHS NOT INCLUDED IN POOLED UNIT

32.1 Drilling, reworking operations, or production of oil and/or gas from a pooled unit established under the printed provisions of this Lease shall maintain this Lease in effect only as to that portion of the lease premises which is included in a pooled unit. This Lease may be maintained in effect as to the remainder of the lease premises in accordance with the other provisions of this Lease. However, if the Lease is maintained by the payment of delay rentals during its primary term, the delay rentals shall be proportionately reduced and payable on a prorata acreage basis on only that portion of the lease premises not included in a pooled unit.

32.2 Production from or operations on a pooled unit or units including a portion or portions of the lease premises will maintain this Lease in force only as to the acreage included in the unit or units. On acreage not included in a unit or units, the Lease may be maintained by any of its other provisions.

32.3 Neither pooling or unitization of any part of the lands subject to this Lease shall be effective until the pooling or unit designation is filed for record in the county or counties where the lease premises are located and until Lessor is notified in writing of the pooling or unitization.

32.4 No land outside the lease premises may be included in any pool or unit for any well located on the lease premises (the "Lease Well"), unless (Amount) of the lease premises are at that time are then included in pools or units for wells (whether located on or off the lease premises) producing oil or gas from the same reservoirs or formations from which the Lease Well is producing.

33. REASONABLE DEVELOPMENT

33.1 After a producing well is completed on the lease premises, Lessee shall exercise the diligence of a prudent operator in drilling an additional well or wells as may be reasonably necessary for the proper development of the lease premises and the marketing of production from the lease premises.

34. REENTRY OF WELLS

34.1 In the event Lessee reenters any well or wells presently located on the lease premises, the drilling, completion, and production from a reentry well or wells shall be deemed to satisfy the provisions of this Lease requiring drilling and production, including, but not limited to, the provisions pertaining to payment of delay rentals, drilling at the end of the primary term, and the maintenance of this Lease by drilling and production. Lessor grants Lessee the right to reenter any well or wells and to utilize all surface and subsurface fixtures and equipment appurtenant to the wells.

35. RELEASE OF LEASE

35.1 In the event any portion of the lease premises is surrendered or released by Lessee, such portion shall be released or surrendered in blocks or segments of land of not less than ____ acres each, or containing the number of acres which will be necessary under then existing governmental laws and regulations to permit the drilling of a well for the production (at full allowable) of oil, whichever is the greater area.

35.2 Within ____ days after this Lease terminates, for any reason, as to all or any part of the lands, Lessee shall execute and place of record in the office of the county clerk of the county in which the lands are located a release of this Lease as to that portion of the lease premises which is no longer covered by this Lease. A certified copy of the release shall be furnished to Lessor.

35.3 In the event this Lease terminates for any reason, Lessee agrees to prepare and file for record in the county where the lands are located a release of that portion of the lease premises to which the Lease is no longer effective. A certified copy of the release is to be mailed to Lessor within a reasonable time after its recording. Should Lessee breach this covenant by failing to execute, acknowledge, and record a release, Lessee appoints Lessor as its agent and attorney-in-fact to act on its behalf for the limited purpose of preparing, executing, and recording the release.

36. REMOVAL OF LESSEE'S EQUIPMENT AND PERSONAL PROPERTY

36.1 The removal of all personal property, equipment, and fixtures of Lessee, including casing, shall be completed within ____ months following the expiration or termination of this Lease. Lessee's failure to remove all property, equipment, and fixtures in a timely manner shall constitute and be deemed an abandonment by Lessee of the property, equipment, and fixtures. On abandonment, the property shall be owned by Lessor, free of cost, and with Lessee having no right of restitution.

36.2 Lessee's right to remove property, equipment, fixtures, and casing is conditioned on the proper plugging by Lessee (or its successors, assigns, agents or contractors) of any dry holes or abandoned wells on the lease premises. This removal right shall terminate if the property, equipment, fixtures, and casing are not removed within ____ days after the termination of this Lease. After the expiration of this ____ day period any of Lessee's property remaining on the lease premises shall become the property of and owned by Lessor without any requirement that Lessee be reimbursed for the value of any property, equipment, fixtures, and casing.

37. RESERVATION OF ADDITIONAL INTERESTS IN PRODUCTION

37.1 As additional bonus consideration for the execution and delivery of this Lease, Lessee shall pay Lessor, in addition to all other remuneration requirements contained in this Lease, a production payment equal to the value of (Fraction or Percent) of all the oil, gas and other hydrocarbons if, as, and when produced from any part of the lease premises, until Lessee shall have been paid the sum of $____. When that sum has been received by Lessor, the production payment shall automatically terminate and all rights to or in the production payment shall automatically revert to and vest in Lessee and its successors and assigns.

37.2 The royalty provided for in this Lease is ____. That royalty shall be paid to Lessor from each well, until Lessee recovers, from the original Lessee's interest in production (after payment of the royalty and Lessee's production, severance and other taxes on and measured by production) an amount equal to 100% of all of Lessee's direct costs of materials and labor incurred in connection with the drilling, testing, completing, and equipping a well. Direct costs shall not include Lessee's costs of overhead, office administration, insurance, amortization, or depreciation. After recovery of that amount, the royalty provided for in this Lease shall automatically increase to ____. This increase in royalty shall apply separately to each well drilled and shall be computed on a well-by-well rather than a Lease basis.

On completion of a well, and monthly thereafter, as to each well, until Lessee's costs have been recovered and the royalty on each well increases, Lessee shall deliver to Lessor an itemized statement of all costs. Lessor may request and Lessee shall provide copies of all invoices itemized in the monthly statements. Until Lessee recovers all costs on a well, Lessee shall provide Lessor copies of all production and sales reports on each well, together with a statement of all production income to Lessee on each well. The increase in royalty shall be effective 7 a.m. on the first day of the month following Lessee's recovery of all permitted costs on each well.

37.3 At such time as the cumulative payout of all wells drilled on the lease premises has occurred, Lessor's royalty reserved in the printed portion of this Lease shall increase from ____ to ____. "Cumulative payout" will be deemed to have occurred at the time when the total proceeds from the sale of oil, gas, and other hydrocarbons substances produced, saved, and sold (plus the current market value of all oil, gas and other substances which are taken in kind or used off the premises, but not sold) from any wells drilled shall equal 100% of the cost incurred in drilling, deepening, plugging, abandoning, plugging back, reworking, testing, completing, and equipping the well (excluding any costs beyond the wellhead connection, such as tanks, separators, and flow lines), together with 100% of the costs of operations during that time. In computing the total proceeds from the sale of oil, gas, and other hydrocarbons, the following shall be deducted: royalties payable to Lessor; any overriding royalty or production payment reserved to Lessor; other obligations payable out of production existing as of the date of this Lease and not created by Lessee; and, taxes based directly upon or measured directly by production.

37.4 In addition to the royalty reserved to Lessor in the printed portion of this Lease, Lessor reserves an overriding royalty on oil, gas and associated hydrocarbons produced and saved equal to ____% of 8/8.

38. ROYALTY PAYMENTS

38.1 Within ____ days following the first sale of oil and gas produced from the lease premises, Lessee, or the purchaser of production, shall pay Lessor for royalties due under this Lease. Royalties shall be paid monthly thereafter without the necessity of Lessor signing a division order or transfer order. If Lessee or purchaser fail to make timely payments of royalty, Lessor may given Lessee written notice specifying the day of the month on which all royalties must be paid for all production sold or delivered off the lease premises through the end of the month preceding the specified date of payment. If payment is not made by the date specified by Lessor, this Lease shall immediately terminate. Upon termination, Lessee shall furnish Lessor a fully executed and acknowledged release of this Lease.

38.2 Lessee shall make the first payment for Lessor's royalty within ____ days from the date of first sale of oil and/or gas from the lease premises or from any pooled unit containing part of the lease premises. Thereafter, payment for Lessor's royalty shall be made on or before the ____ day of each month. Lessee's failure to comply with this provision within ____ days after receipt of Lessor's written notice, by registered mail, return receipt requested, giving Lessee notice of the breach of this provision, shall cause the automatic termination of this Lease as to the lease premises.

38.3 If Lessor's royalty payments are suspended for any reason, Lessee shall be liable for interest on the suspended royalty amounts at the maximum legal rate during the period of suspension.

39. SALT WATER: DISPOSAL, STORAGE, AND HANDLING

39.1 Lessee's operations on the lease premises shall be conducted in such a manner as to prevent the contamination of any and all water in, on, or under the lease premises and any and all subsurface water bearing strata or formations. Lessee shall prevent the contamination of the surface of the lease premises from salt water pollution or any other contaminating substances flowing over or seeping onto the lease premises as a result of Lessee's operations.

39.2 Any salt water produced from wells drilled on this Lease shall not be disposed of on the lease premises unless it is injected into formations or depths below the deepest fresh water bearing formation under the lease premises. Lessee shall not use salt water pits of any type on the lands subject to this Lease, and shall dispose of all salt water, either off the lease premises or by injection into a formation under the lease premises which is suitable for receiving salt water, without the possibility of it escaping or migrating to the surface or escaping or migrating into a fresh water sand or formation. Lessee shall not dispose of salt water or other waste liquids on the lease premises which has been produced from lands not covered by this Lease.

39.3 If salt water is produced from any well on the lease premises, it may be reinjected into a formation below all fresh water bearing formations under the lease premises. In all circumstances, salt water and any other deleterious substances shall be handled in a manner that will not pollute fresh water or cause damage to the surface. No salt water shall be returned into any well unless: (a) it is a by-product of a well drilled on the lease premises; or, (b) Lessee has obtained the prior written consent of Lessor.

40. SHUT-IN GAS ROYALTY

40.1 If this Lease is being maintained beyond its primary term solely by a well capable of producing gas in paying quantities, but which is not being produced as a result of the causes set out in the shut-in gas royalty provision contained in the body of this Lease, the Lease shall only remain in force and effect for a period not to exceed ____ consecutive years after the latter of: (a) the end of the primary term; or, (b) the cessation of any other fact, action, or condition which is otherwise maintaining this Lease. The right to maintain this Lease by virtue of the shut-in status of a well which is capable of producing gas in paying quantities shall recur upon each occasion that a well is shut-in, but in each case for a period not in excess of _____ during the secondary term.

40.2 This Lease shall not be maintained in force solely by the payment of shut-in gas royalties for a period of more than ____ consecutive years.

40.3 While there is a gas well or wells on the lease premises, or on acreage pooled with the lease premises, capable of producing gas in paying quantities, but gas from the well or wells is not being sold or used because of lack of market, market facilities, or transportation, Lessee shall pay for each well from which gas is not being sold or used, as a shut-in royalty, a sum equal to $____ per acre subject to this Lease at the time the payment is made. This payment shall be due on or before ____ days after the date on which: (a) the well is shut-in; (b) the lease premises or any portion of the lease premises is included in a pooled unit on which the shut-in well is located; or, (c) this Lease ceases to be otherwise maintained, whichever is the later date. Thereafter, like payments will be due at annual intervals on or before the anniversary of the date the first payment is made. If the payment is made, this Lease shall not terminate and it will be considered that gas is being produced from the well or wells in paying quantities. This Lease shall not be held in force by, nor shall it be considered that gas is being produced on the lease premises, or on lands pooled with the lease premises, the payment of shut-in gas royalties for a well or wells which are not actually producing gas in paying quantities for any period extending beyond ____ years after the expiration of the primary term of this Lease.

40.4 Lessee shall not be entitled to maintain this Lease under the shut-in gas provision for a period longer than ____ years from the date of shut-in of a well unless this Lease is held by continuous drilling operations as provided in this Lease.

40.5 No part of the lease premises shall be held for a period greater than ____ years following the expiration of its primary term as a result of the payment of shut-in gas royalty. During any period of shut-in, Lessee shall pay Lessor, as a shut-in gas royalty, the sum of $____ per acre per annum then covered by the Lease, for the period commencing on the date a well is actually shut-in, unless this Lease is maintained in force and effect by some other provision of the Lease, in which event, the period shall commence on the date the Lease ceases to be maintained by that other provision. In the event this Lease terminates with a gas well or wells shut-in on the lease premises, Lessee shall leave the wells, with casing intact, for Lessor, without right of any reimbursement from Lessor for the value of any equipment or any other items or expenses. Time for any payment required by this Lease for shut-in gas royalty

(as provided in paragraph ____ of the printed portion of this Lease) is of the essence. Lessee's failure to make timely and proper payment shall constitute an automatic termination of this Lease. Lessor assumes responsibility to plug and abandon.

41. SURFACE DAMAGES: PAYMENT FOR USE / SURFACE DAMAGES TO LESSOR'S PROPERTY

41.1 Lessee shall pay Lessor a surface rental of $____ per month for each acre (or part of an acre) occupied by Lessee or Lessee's equipment in the prosecution of operations on this Lease, including, without limitation, drilling, production, storage, and processing operations. This surface rental shall not be paid on any area used only for roadways. Payment shall commence on the first day of the month following commencement of operations by Lessee. No single drill site or other facility on the leased premises shall occupy an area in excess of ____ acres.

41.2 All surface usage and damage payments required to be paid under the terms of this Lease, and which are capable of being determined prior to the commencement of drilling operations, shall be paid before any drilling rig is moved onto the lease premises.

41.3 Lessee shall pay the surface owner or the surface owner's tenant the value of any loss resulting from damage or injury to improvements, fences, crops, or livestock located on the lease premises caused by the operations of Lessee. This amount shall be the sole compensation due the surface owner or tenant for the damage or injury, or for the use of the surface of the lands subject to this Lease. Lessee shall not be obligated to compensate the surface owner or tenant for any damage or injury to improvements, fences, crops, or livestock, which are promptly repaired or restored by Lessee in approximately equivalent condition following completion of the activity which caused the injury.

41.4 Lessor recognizes that Lessee has the right to use as much of the surface of the lease premises as a reasonably prudent operator would use to accomplish the purposes of this Lease. Lessor owns both the surface and mineral estate in the lands covered by this Lease. Lessee agrees to pay Lessor, as surface damages, the sum of $____ for each drill site location on the lease premises on the commencement of drilling each well. This amount includes payment for damages for tank battery locations.

42. SURFACE PITS

42.1 All surface pits constructed by Lessee during operations on the Lease shall be lined with plastic to prevent contamination of any and all waters in, on, and under the lease premises.

43. SURFACE RESTORATION AND REPARATION

43.1 If any soil on the lease premises is damaged or contaminated as a result of Lessee's operations from spills, leaks, dumping, pumping, or draining of saltwater, oil or other chemicals Lessee shall clean up and restore and reseed the soil, and do anything reasonably necessary to restore the soil to as near its original condition as is possible. If Lessee fails to comply with this obligation following ____ days written notice to Lessee from Lessor, Lessor may undertake this cleanup and restoration operation and then be entitled to recover from Lessee an amount equal to ____ times Lessor's cost for the cleanup and restoration. If Lessee fails to pay this amount, when requested, Lessee shall also be entitled to reasonably attorney's fees and court costs if a court proceeding is instituted.

43.2 On abandonment of the lease premises as a result of drilling a dry hole or the cessation of production, Lessee shall restore the surface of the lease premises to the same condition it was in prior to commencement of operations. This restoration shall include the removal of caliche and other materials brought in by Lessee for well location pads, tank battery sites and roadways, removal of debris incident to Lessee's operations, removal of all foreign substances and materials in pits, and the leveling and filling of all pits. In the event the cost of restoration exceeds the amount of depreciation in value of the lease premises caused by operations, Lessee shall not be obligated to restore the same, but shall be obligated to compensate the owner of the surface or the surface tenant for the depreciation in value of the lease premises resulting from Lessee's operations.

43.3 After completion of a well as a producer, or the conclusion of operations on a dry hole, the lease premises shall be restored to the condition it was in before any operations were commenced. All pits shall be emptied and filled in. All surface area shall be leveled. All caliche not needed for a base for a tank battery, pumping unit, roadway, or other equipment, shall be removed and placed back in the pit from which it was initially excavated (if on the lease premises), unless specified otherwise by Lessor. All restored areas shall be reseeded under the direction of Lessor.

43.4 After completion of each operation, each location will be cleaned up in a good, sufficient, and prudent manner consistent with good oil field operations, and the lease premises will be restored to its prelease condition.

44. SURFACE USE BY LESSEE AND ACCOMMODATION WITH AGRICULTURAL USE OF THE SURFACE

44.1 If Lessee completes an oil or gas well on the lease premises, all operating and storage equipment, machinery, and fixtures will be low in profile and height, and located in such a manner to permit Lessor's use of center pivot irrigation systems or other common types of overhead irrigation systems.

44.2 The surface of the lease premises is used primarily for agricultural purposes. In view of this, Lessee shall take all reasonable steps and measures in its operations on the lease premises to not unreasonably interfere with this agricultural use. Any use of the surface by Lessee in its operations which prohibits or curtails the agricultural use of the surface to that portion of the lease premises located outside the acreage reasonably necessary for Lessee's operations, will be deemed to be unreasonable and Lessee shall be liable for all damages which result from the inability to use that surface area for agricultural purposes. If this interference includes the inability to operate a pivot-type circular irrigation system, Lessee shall build pits, cellars or ramps, or use equipment, structures and facilities of limited height to allow that irrigation equipment to operate normally.

45. SURFACE: UNAUTHORIZED USE

45.1 Lessee shall not permit any guns or firearms to be carried on the lease premises, in vehicles, or on the persons of any agent, employee, business invitee, or independent contractor of Lessee. Lessor reserves the right at any time and from time to time to inspect any vehicles located on or coming on or off the lease premises to ensure that no guns or firearms are being carried. Violation of this covenant shall cause Lessor to be paid liquidated damages by Lessee in the amount of

$_____ for each violation, plus attorney's fees, in the event it is necessary to retain a lawyer to collect these liquidated damages.

45.2 Lessee and its agents, servants, employees, and contractors shall avoid, whenever possible, operating vehicles of any type over roadways when the roadways are wet, muddy, or soft. Lessee shall promptly repair any damage or ruts resulting from such use.

45.3 Lessee, its agents, servants, employees, contractors, invitees, and guests shall not hunt, fish, or trap on the lease premises and shall not bring onto the lease premises any type of gun, firearm, fishing, or any hunting apparatus.

45.4 This Lease does not grant to Lessee the right or privilege to erect and maintain refining facilities or any other extraction or treating facilities not directly related to the production, treatment, and recovery of oil, gas, and constituent hydrocarbons necessarily produced with oil or gas from only the lease premises.

46. TAKING LESSOR'S OIL AND GAS ROYALTY IN KIND

46.1 At Lessor's sole option, it may take in kind or separately dispose of its royalty share of the gas produced and saved from the lease premises under the terms of this Lease. The share of gas, taken or disposed of by Lessor, shall be taken in kind, or separately disposed of by Lessor, at Lessor's option, either at the mouth of the well or at the downstream side of the lease separator on any well having a separator, with the point of delivery being agreed upon by Lessor and Lessee. All facilities necessary to separately measure and to take or dispose of the royalty share of gas shall be installed and maintained at the sole risk, cost, and expense of Lessor. Until the time Lessor commences taking or separately disposing of royalty gas, it may be sold by Lessee and Lessee shall make royalty payments as provided for in this Lease. If Lessor elects to exercise its option to take in kind or separately dispose of its royalty gas, Lessee shall have a preferential right and option to purchase the royalty gas by meeting any bona fide offer acceptable to Lessor from a third party purchaser in an arms-length transaction. Within a reasonable time after a third party offer to purchase is made, Lessor shall deliver to Lessee written notice of the offer. The written notice must set forth the proposed third party purchaser's name and address, the price offered, the term of the proposed sales contract, and all other pertinent information relative to the offer. Lessee shall have _____ days from and after receipt of the notice within which to advise Lessor of its election to enter into a gas sales contract with Lessor for the purchase of Lessor's royalty gas on equivalent terms and conditions. If Lessee fails to notify Lessor within the _____ day period, it shall be considered for all purposes that Lessee has elected not to purchase Lessor's royalty gas and Lessor shall be free to accept the third party purchaser's offer. If Lessor does not accept a third party offer or if Lessor accepts an offer and the sales contract expires or terminates, in either event, Lessee shall again have the right to meet any subsequent bona fide offer in the manner provided above.

46.2 Lessor reserves the option, which shall be exercised at Lessor's sole risk and expense, to take in kind and separately dispose of its share of royalty gas, casinghead gas or other gaseous substances produced from the lease premises, at the wellhead. In tying into Lessee's lines or equipment, Lessor shall do so with materials of like kind and quality as Lessee uses and prescribes and in the manner Lessee reasonably directs. Lessor shall indemnify and hold Lessee harmless from and against any and all actions, claims, causes of action, demands and costs and expenses arising out of any injury whether to person, property, or both, in connection with any installations or operations of Lessor in exercising this option to take in kind.

47. TOP LEASES

47.1 Lessor and Lessee acknowledge that the lands described in this Lease are presently subject to an Oil and Gas Lease dated ____, recorded in Volume ____, page ____, of the ____ Records of_____ County, _____, from _____, as Lessor, to _____, as Lessee (the "Effective Lease"). The primary term of the Effective Lease expires on _____. Lessor covenants and agrees not to extend, renew, amend, or modify the Effective Lease. If the Effective Lease is extended beyond its primary term by drilling operations, reworking operations, or production from the lands covered by the Effective Lease, or on land with which the Effective Lease has been pooled, this Lease shall not become effective and Lessee shall be relieved of all obligations provided for in this Lease. If the Effective Lease terminates at the end of its primary term, this Lease shall immediately become effective upon the Effective Lease's termination. Lessor warrants there are no other leases or top leases on any of the lease premises and agrees that no other top leases covering all or any part of the lease premises will be executed by Lessor.

47.2 This Lease is subject to a Prior Oil and Gas Lease (the "Prior Lease") which covers the lease premises. The Prior Lease is from _____, as Lessor, to _____, as Lessee, dated _____, and recorded in Volume ____, page ____ of the ____ Records of ____ County, ____. Lessor makes no representations as to the validity of the Prior Lease. It appears the Prior Lease is still effective as to the lease premises. This Lease is subordinate to the Prior Lease and shall not become effective until the termination of the Prior Lease. However, if the Prior Lease does not terminate within _____ years from the date of this Lease, this Lease shall not become effective and shall automatically be deemed null and void.

48. TOP LEASING PROHIBITION

48.1 If, during the primary term of this Lease, Lessor receives, from a third party, in an arms-length transaction, a bona fide offer, which Lessor is willing to accept, to purchase a lease on all or any part of the lease premises with that lease becoming effective on the expiration of this Lease, Lessor agrees to immediately notify Lessee, in writing, of the offer, including in the notice the name and address of the offeror, the price offered and all of the pertinent terms of the offer. Lessee shall have _____ days from the date of receipt of Lessor's written notice within which to elect to purchase a new lease on any part of the lands that are subject to this Lease at the same price and on the same terms and conditions as specified in the third party offer. All offers made at times up to and including the last day of the primary term of this Lease shall be subject to the terms and conditions of this provision. In the event Lessee elects to purchase the new lease it shall notify Lessor in writing prior to the expiration of the ____ day period. Lessee shall promptly furnish Lessor the new lease for execution by Lessor, together with Lessee's payment of the bonus, as specified in the offer, as consideration for the new lease. Upon receipt, Lessor shall promptly execute the new lease and return it to Lessee. Lessee's failure to respond to Lessor's written notice within the _____ day period shall be deemed an election by Lessee not to purchase the new lease. At that time, Lessor shall be free to execute the new lease in favor of the third party offeror.

49. USE OF PRODUCED OIL OR GAS BY LESSOR

AND LESSEE

49.1 Lessee is granted the right, free of all cost or charge, to use oil and/or gas produced from the lease premises for drilling and production operations. The royalty payable under the terms of this Lease shall be computed after deducting the oil and/or gas used by Lessee in operations on the lease premises.

49.2 Lessor shall have the privilege, at its risk and expense, and without cost, to use gas from any gas well on the lease premises for stoves, heating and cooling, lights and similar residential uses in the principal dwelling of Lessor located on the lease premises, and for the operation of irrigation pumps situated on the lease premises. Lessor shall make the necessary connections so that gas can be delivered to and used by Lessor. In the exercise of this privilege, Lessor shall notify Lessee in writing of Lessor's election to take gas. The notice shall be delivered to Lessee at least ____ days prior to the proposed taking by Lessor. Any connections established by Lessor for the delivery of gas shall be made at the direction and approval of Lessee. Lessor's right to use gas is subject to and inferior to the right of Lessee to use oil and/or gas produced from the lease premises for its operations. Any oil or gas used by Lessor and Lessee shall be deducted from production for the purposes of calculating royalty payments. Lessor's right to free use of gas is limited to a volume of ____ MCF per calendar year. If Lessor's use of gas shall exceed that volume, Lessor shall pay Lessee for any volumes of gas, used by Lessor, in excess of the volume identified above.

50. WARRANTY

50.1 Lessor warrants and agrees to defend the title to Lessor's mineral interest that is subject to this Lease against the lawful claims and demands of all persons claiming or to claim the same, or any part thereof, by, through, or under Lessor, but not otherwise.

50.2 This Lease is delivered by Lessor and accepted by Lessee without warranty of title, express or implied.

51. WATER WELLS DRILLED BY LESSEE

51.1 Lessee has the right to drill water wells on the lease premises only in connection with its oil and gas drilling operations. In drilling water wells, Lessee accepts all liability for contamination of Lessor's existing water wells caused by the drilling and operation of Lessee's water wells. Lessee shall drill water wells at locations and to depths adequate to protect Lessor's water wells from contamination and drainage. If Lessee drills a water well, it shall be at a location approved by Lessor. All water wells drilled and used by Lessee, when abandoned by Lessee, shall be preserved in usable condition, including the casing and equipment, for the benefit and ownership of Lessor. If Lessor accepts the water wells, Lessor shall accept full responsibility for those wells and indemnify and hold Lessee harmless from and against any and all claims, actions or demands for injuries or damages of whatever kind or character resulting from ownership and operation of the water wells by Lessor. If Lessor elects not to accept the water wells, or any of them, Lessee shall promptly and properly plug and abandon the unaccepted wells in accordance with applicable rules, laws, and regulations.

51.2 Following termination of this Lease and all of Lessee's operations, all water wells that may have been drilled by Lessee on the lease premises shall be properly cased, capped, plainly marked, identified, and left for the use of and ownership by the owner of the surface estate of the lease premises.

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