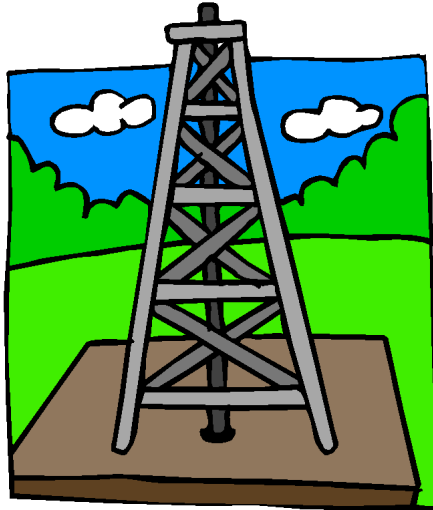


OIL AND GAS INFORMATION PREFACE



Introduction. Fort Worth's Meadowbrook area has Natural Gas deposits. Gas is recovered from a geological formation called the Barnett Shale approximately 1.5 miles below the surface. This shale zone covers Tarrant and 14 surrounding counties including Denton, Johnson, Parker, and Wise. Gas deposits in the shale have been known for years. However, the technical know how coupled with economic incentives were not present until the beginning of this century. Drilling began in East Fort Worth in 2003 and is advancing rapidly in the area. Oil and Gas exploration is new to most of Tarrant County, which was viewed in past years as being impractical. Because of that attitude many landowners did not reserve their mineral rights as land was bought and sold. As the population grew, the land itself was divided into smaller tracts until most of the land in Meadowbrook became city lots of less than one acre. The mineral rights moved accordingly and consequently created a large number of mineral rights owners. The area, once known for dairies, creeks and trees is now being known for natural gas reserves. This material on Oil & Gas Information has been assembled for educational purposes to familiarize Meadowbrook's citizens with the oil and gas business, leasing of oil and gas, city and state rules and regulations, and the tax impact on their property.

Disclaimer. Some information in this section is connected to private agreements, taxes, laws, and related matters, it is not intended to substitute for legal advice. Readers acting upon this type information should seek appropriate legal counsel and / or information from appropriate governmental authorities.

Websites. Detailed information can be found on Texas Railroad Commission website www.rrc.state.tx.us/; The State Comptroller website www.window.state.tx.us/; The Texas Secretary of State website www.sos.state.tx.us/; Tarrant Appraisal District website www.tad.org; City of Fort Worth website www.fortworthgov.org; Texas State Statutes website [tlo2.tlc.state.tx.us/ statutes/ lg.index.htm](http://tlo2.tlc.state.tx.us/statutes/lg.index.htm).

Annotations. This information contains standard annotations: i.e. means 'that is to say' from the Latin 'id est'; e.g. means 'for example' from the Latin 'exempli gratia'; q.v. means 'in reference to' from the Latin 'quod vide'

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OIL AND GAS INFORMATION CONTENTS

<u>PAGE</u>	<u>SUBJECT</u>
3	Lease Information about a typical oil, gas and mineral lease. Describes the contents of a typical oil, gas and mineral lease, Division Order and Division Order Interest.
6	Taxes Information about Appraisal Districts, Calendars, Tax Basis, Appraisals, Exemptions, Types of interests, Tax Calculations, Tax and Revenue Factors, Checking an Appraisal, Tax Consequences, Well Identification, Rendering, Protesting, Seizure and Income reporting
9	City Regulations Information about Fort Worth Gas Drilling Regulations. Describes the City Ordinance, Gas Inspectors, Protected Use, Permit Types, Permit Waivers, Permitting, Site Requirements, Environmental, Safety and City Property
11	State Regulations Information about Oil and Gas Geology, Drilling methods and Texas State Regulations. Describes Geological Formations, Oil and Gas Deposits, Barnett Shale, Pools and Reservoirs, Oil and Gas Fields, Lease, Units, Wells, Drilling, Perforating, Fracturing, Water, Producing Well, Shut-in well, Abandoned well, Pipelines, Texas RRC and Oil and Gas division, RRC permits, Spacing rules, Density Rules, Allowable Rules, Texas Secretary of State and Texas Comptroller.
16	Companies Information about Selected Oil and Gas Companies in the Meadowbrook Area.
17	Glossary Definition of Terms and Terminology used in the Oil and Gas Industry

OIL AND GAS INFORMATION LEASE

Lease Package. This is a description of a typical oil and gas lease package for lay purpose use only and is not intended to be a legal instrument or as a substitute for legal advice. The package is similar to the lease proposal widely distributed in the Meadowbrook area in the summer of 2007. The proposal package consists mainly of three parts. 1.) Introductory letter; 2.) Purchase Report form and 3.) Lease form patterned after a revised Standard Producers 88 form.

Introductory Letter. The lease is usually accompanied with an introductory letter(s) from an Oil and Gas Company and /or an agent acting in their behalf requesting leasing of oil and gas rights and citing the virtues of doing business with them. Names of representatives are included and how to contact them. A offer of terms may be included covering bonus signing dollars per acre (with minimum), a percent of Royalty Interest, Duration of lease, and other conditions.

Purchase Report. This a document containing information used by the company to process the lease. Key data in this document is contingent on the lease agreement and it is important that it be checked carefully. Bonus amounts are calculated from the negotiated price per acre and the amount of acreage. Verify that the acreage amount is correct and agrees with the property deed. Mineral interests that are not 100% can affect the acreage figure. Multiple property owners where oil and gas are not reserved can affect the acreage figure. Identification covers their drilling area identification (i.e. Westfork/ Meadowbrook), the identities of the Lessor, Lessee, and Broker (mineral owner and the parties seeking a lease or purchase of the property and the party who can broker the agreement to others) and the type of legal instrument used in the agreement (i.e. fee or lease). Dates indicate the beginning, duration, and end of the lease. Lease Costs record the Bonus amounts per acre and amount paid. Location includes the legal description of the property (i. e. Lot , Block, addition) and the mineral owner interest expressed in fractions and / or percentages and the amount of acreage in the tract. Also shown are the type of interest of the lessee, usually Working Interest and the Lessors Royalty interest expressed as a percent. Name contains data pertinent to the signatories to the lease such as name, address, social security number and martial status. Social Security numbers are used to report payments to the IRS and marital status recognizes Community Property laws.

Lease. This is a legal document for the arrangement of leasing oil and gas and mineral rights, *it is not a document for selling those rights*. This example form is referred to as a Producers 88 Revised. The lease title describes the type of lease (i.e. Oil, Gas and Mineral Lease) . Often contained in parens is the expression “No Surface Use” meaning the lessee does not intend to use the land surface or property over which the oil and gas reside (q.v. Covenant #12). This may conflict with later clauses in the lease describing surface usage. There is an Opening Clause describing the instrument as an agreement between Lessor (mineral owner) and Lessee (oil / gas company). The interior of the lease contains clauses or covenants on particulars of the lease and are usually numbered for reference purposes. At the end of the lease is the Closing for signatures and notarization. Leases can have attachments known as Addendum and / or Exhibits. These must be referenced in the body of the lease and contain wording so as to include them in the lease agreement.

Lease Covenants. The Covenants or Clauses of a lease are the particulars or terms of agreement of the lease. This example lease contains twelve Covenants. Other leases may contain more or less dependent upon the mutual agreements of the parties involved. The numbers in this example are relative to the aforementioned distributed lease and are not intended as relative to other leases.

OIL AND GAS INFORMATION LEASE

Covenant Descriptions. Described below are the individual covenants in this example lease. These descriptions have been reduced to lay language for brevity. Refer to the lease itself for exact particulars.

1. For a consideration (Bonus and Royalties), Lessor leases oil and gas on the land described.
2. A paid up lease for a primary term of specified years / months and as long as production exists.
3. Lessee pays Royalties on a stated percent of realized value on produced oil and / or gas. Oil bears a treating cost . Gas allows deduction for residue for compression / plant fuel. Other minerals may be paid at 1 / 10 value and sulphur at \$1.00 per long ton. Provisions are made to maintain the lease in the event a shut-in well condition occurs. Payment provisions for depository banks are included.
4. Lessee can combine all or part of this lease with others however and whenever he deems appropriate. Combined lease acreage for a horizontal Gas Well is a maximum 640 acres (+-10%). Production from any well on the combined lease area will hold all of the combined leases beyond their primary term. Royalties are subject to pay based on lease acreage ratio to combined lease acreage total.
5. Expiration of lease term may be extended beyond its expiration date 60 days if no production exists but work is still in progress. If production ceases a 60 day period may be invoked to attempt renewed production and extension of the lease. If a producing well is drilled within 330 feet of this lease or combined leases, Lessee agrees to also drill to prevent draining of leases' Gas.
6. Allows for removal of all property placed on this land by Lessee during and after the term of this lease (q.v. Covenant #12). No well may be drilled within 200 feet of a structure without Lessor consent.
7. Both parties may reassign their respective rights in this lease. Reassignment does not allow changing, enlarging, or diminishing current rights. Lessee has 30 days after registered mail notice to effect changes made by lessor. Notices must contain official certified recorded documentation.
8. Breach of lessee obligations shall not be cause for termination of this lease. Lessee is under no obligation to develop the lease during its primary term. After expiration of the primary term and lease has been found to have payable mineral value, Lessee is required to develop the lease or combined leases but is limited to acreage requirements above (q.v. Covenant #4). Lessor must notify Lessee of any breach in writing. Lessee has sixty days to begin compliance.
9. Lessor agrees to responsibility to defend title to the mineral rights. The Lessor may discharge any liens against the property and is given the right of subrogation to royalties for that purpose. Any other claimants must abide by the terms of this lease.
10. If lessee is prevented from performing by Force Majeure, Laws, rules, or ordinances of government or scarcity of materials their obligations are suspended and not liable for damages. The lease is extended until the problem is resolved.
11. Permits the Lessee a perpetual right to place well bore hole pipes under this lease without paying royalties
12. Lessee does not acquire any land use rights within this lease. no rights whatsoever to conduct any operations on the surface without first obtaining permission from the Lessor.

Exhibits. Some leases may have exhibits attached . There are usually referenced as Exhibit A, Exhibit B, etc. in the body of the agreement An exhibit may be part of an agreement or simply a reference to clarify a stipulation in a covenant.

OIL AND GAS INFORMATION LEASE

Addendums or modifications may be made to a lease, subject to the agreement of both parties. Addendums are attached to a lease and extend or modify the conditions or provide additional covenants. Addendums are referenced in the lease and the lease is referenced in the addendum. Addendums are specific conditions that an individual or group of individuals may wish to consider.

Group Agreements. Some lessors join with other lessors to form mutually agreeable leases. The rationale in joining this arrangement is strength of numbers and amount of acreage contributed. These factors give leverage in negotiating favorable terms. Acreage is an attractive item to the company in complying to State oil and gas regulations. These agreements can take many forms and are called by many names. Some are what are often referred to as a pooling agreement. This can be an agreement wherein multiple Lessors or their agents negotiate terms of a lease with an Oil and / or Gas Company. The lease contains terms, amounts and conditions that are agreeable to the group. They all share in the proceeds of a well or wells within the pool area based on their agreed participation requirements. For instance, an individual lease within the pool may or may not have payable value. It still shares in the Royalties. Another group agreement is the assignment of some responsible party(s) to develop a lease that reflects the common interests of an area. It may or may not involve the negotiation of Bonus and Royalty amounts. These agreements are often referred to as Common, Standard, or Community Leases. The lease is constructed in form and made available to interested Lessors or brokered by arranging parties for compensation. Compensation may be monetary or in tangible goods and services. See glossary for terms ending in Clause as an aid to understanding some types of terms.

Participants joining a group should acquire full comprehension of the terms of the Lease. This may require the group to provide information about each aspect of the Lease particulars being considered or available. With any of these agreements certain costs are inevitable. These may be attorney fees, printing costs, advertising, meetings, consultants, etc. Some groups may be able to defray these costs on their own, others may need to assess participants and some may require the Lessee to pay these expenses. Some may wish to make a small profit for charitable purposes or community benefit.

Division Orders. Lessors should be aware that when a Lease becomes productive they will be asked to sign a Division Order. This is a document that states the decimal amount of the revenue interest of the lease or its DOI. A Division Order also exists for Lessees. The Division Order is used to pay Lessor Royalties from the revenue from a producing well(s).

DOI (Division Order Interest). This is the decimal interest arrived at by considering the amount of a Lessor acres in ratio to the amount acres within any other combined leases and the Lessors Royalty interest in the lease. For example, If an individual lease of 32 acres is combined with other leases totaling 640 acres, then the 32 acres are 5% of the total revenue of the 640 acres. If the Royalty interest on the 32 acres is 25% then the DOI is 25% of the 32 acre Revenue. More simply stated, the DOI is 25% of 5% or 0.0125 decimal of the 640 acre revenue. Assume the entire 640 acres produced \$75,000 revenue. Then 32 acres would produce \$3,750 ($75000 \times 5\%$). A 25% interest in the 32 acres revenue would then produce \$937.50 ($\$3750 \times 25\% = \937.50). Hence, $75,000 \times 0.0125 = \$937.50$.

OIL AND GAS INFORMATION TAXES

Taxes. The tax information contained herein refers to Texas Property Taxes on Real Property in general and Mineral Leases in particular. It does not contain detail information on tangible assets, corporate, business, personal property or income taxes although references may be made. For information on these matters contact the appropriate Local, State or Federal agency or a qualified Accountant or Attorney. The following information is not intended for use as a legal document or as legal advice. The reference to minerals and mineral estates in this information includes oil and gas although technically oil, gas and coal are not minerals since their origin is organic.

Appraisal Districts. Real Property and Mineral Interest taxes are based on two factors. One, the appraised value and two, the rate of taxation per appraised value. In Texas, individual governmental bodies, thru elected representatives set the rate of taxation. These are cities, counties, school districts, and special districts such as hospital, community college, transportation, water authorities, etc. The rate is usually expressed in dollars per hundred of appraised value. Texas has formed appraisal districts in each county which perform appraisals under the rules and regulations of the State Comptroller. Taxing entities with contingent boundaries in multiple counties may use only one appraisal district. The Tarrant Appraisal District or TAD for short, functions in Tarrant County. TAD also maintains other appraised values such as business and personal property. Taxes regarding minerals are affected by the appraised value of the minerals which are determined by their value during an annual tax period.

Tax Calendar. The Tax calendar for appraisals begins January 1st with the Appraising phase and runs into May. The next phase, Equalization, begins May 1st with the mailing of appraisals going into July. The next phase, Assessment or certification, begins at the end the prior phase and continues to Oct. 1st. The last phase, Delinquent Collections begins Oct. 1. A 30 day protest period and 20 day waiver and arbitration period accompany the appraisals during the Equalization phase.

Estates. Texas recognizes two types of estates concerning land. One is the Real Estate (land surface property and structures) and the other is the Mineral Estate. Both estates can be owned by the same or different individuals. Rights of the Mineral Estate supersede the Real Estate owner.

Value Basis. The Texas Property Tax Code identifies Fair Market Value as the basis for appraising property. The Fair Market Value is the price property (real or mineral estate) would sell for in cash or its equivalent in a reasonable time period with full knowledge of its use and restrictions and without any unfair advantages on the part of either the Buyer or Seller.

Real Estate Appraisal. Real Property is appraised on the fair market value and includes the value of the land and its structures or improvements. Appraisal notices are sent annually to property owners of record. The appraisal districts maintain a systematic method of appraising property values. Evaluations may be challenged by property owners thru the District's Appraisal Review Board (ARB) process.

Mineral Estate Appraisal. Mineral appraisal is new to TAD and has been contracted out to a professional appraising firm known as Pritchard and Abbott, 4800 Overton Commons Ct. Fort Worth, Texas Tel. 817-926-789. Inquiries to TAD about minerals may be redirected to Pritchard and Abbott. Mineral appraisals are a complicated process and are fixed by State mandate since 1926. The worth of the minerals begin when oil or gas production begins, not at lease signing. Their fair market value is based on future value and performance and are determined by a series of factors involving production volumes, operating costs, market value, cost of money, geopolitical and other influences. Mineral Interest appraisals are sent annually to mineral owners receiving income from those minerals. Mineral appraisals are separately handled from real property appraisals, in a manner similar to Business personal property.

OIL AND GAS INFORMATION TAXES

Exemptions. Texas provides for certain exemptions that can be applied to an appraised value. Homestead, Over 65, Disabilities are all eligible exemptions. To receive an exemption an application must be made with the Appraisal District in conformance with the requirements of the exemption. With the exception of any State imposed minimums/ maximums, acceptance is at the option of the individual taxing entities. Annually, TAD sends each Real Estate owner within its jurisdiction an evaluation of the fair market value of the real property, the exemptions applicable to each taxing unit and the resulting appraised value. State law allows for a tax ceiling on School taxes for over 65 exemptions. The ceiling can be transferred relative to respective tax levies when relocating. Mineral Estate appraised values do not have any of these exemptions when they are applied to Real estate. They may be considered applicable if they are not applied to Real Estate and granted Appraisal Review Board approval. Minerals do not have a tax liability if the value is less than \$500.

Royalty and Working Interest. There are two parties or owners to a mineral lease. Royalty interests (RI) and Working Interests (WI). Separate appraisals are given to each party based on their respective interest. Working Interests perform all the well / lease management and incur most or all of the costs. The costs are deductible from their part of the lease appraisal value and are known as Lease Operating Expense (LOE). Mineral leases are projected into the future until LOE exceeds income. This is the Economic Limit at which time the appraisal stops.

Appraisal Calculations. There are two separate calculations involved in determining the appraised value of minerals for taxing purposes. The first calculation involves the WI owner while the second involves the RI owner. The method of calculation is referred to as a Discounted Cash Flow (DCF) or Discounted Net Income (DNI). This method is based on the *worth* of forecasted recoverable reserves in terms of future income. It is *not* based on estimated oil or gas volumes in the reservoir. It is based on historical data of the lease. The calculation involves four parameters. One is the Start and Decline rate of production or Production Profile, measured in units of barrels (Bbl) per day for oil or thousands of cubic feet (MCF) per day for gas. Second is the Price per unit, Third is the LOE and the fourth is the Discount rate. In determining the appraised value, data from the Texas Railroad Commission (RRC) involving the lease's production is reviewed and its initial and following average production flow is established. Using computer software the projected rate of decline of the well is forecast. Combined, this establishes the forecasted production for the lease. The Daily Weighted Price is established by using data showing average gross Bbl/ MCF and gross revenue for the lease. This data will furnish the Lease gross income. The WI interest in the lease is applied and the WI gross income for the lease determined. The RI interest is applied and RI gross income determined. For example, if the gross income for the lease was \$100,000 and the WI and RI interests were 75% and 25% then the gross income would be \$75,000 and \$25,000 respectively. The WI then subtracts the LOE arriving at net revenue. A discount rate is applied and discounted WI future net revenue is projected. This is projected for each year for several years and then averaged. This number becomes the appraised value for the WI. The same procedure is followed for the RI except the LOE is not applied since there is no operating expense. The resulting average Discounted RI net revenue is the RI appraisal value. Since these calculations are done each year using prior production and revenue data, as well as changing discount rates, the resulting appraised value can change.

Tax Factors. The Price used in the calculations is the Daily Weighted Price. The amount has been adjusted to compensate for State taxes collected on income. This tax is called a Severance Tax and is currently 4.6% for oil and 7.5% for gas and will be assessed against RI and WI interests. The weighted price is determined by the sum of the lease average gross revenue per day for each month divided by number of days in a year (365).

OIL AND GAS INFORMATION TAXES

The Discount Rate applied in calculating appraisals is the cost of money. It is used to bring the projected future value of money to the present. For example, because of inflation tomorrows dollar may only be worth \$0.90 today.

Revenue Factors. Originally before a lease was signed, the Lessor may have owned 100% of the minerals. At signing the interest was divided between the Lessor and Lessee. The lease may become part of a unit composed of other leases. The acreage and Royalty Interest become factors in determining the amount of revenue shared with other leaseholders

Appraisal Check. The appraised value of Minerals can be roughly checked by using an industry rule of thumb calculation. Total last year's Royalty payments from the payee (If the payments are for less than a full year, estimate the missing amount). Divide the proposed appraisal value by the Royalty total. If the result is 4 or less, the appraised value is probably good. This practice is used when considering an offer to buy Mineral Interests.

Tax Consequences. Tax liabilities for a jurisdiction outside normal taxing jurisdictions may occur. This happens when a lease is in a pooling agreement that crosses over jurisdictional boundaries. For example, a pooling situation including the Fort Worth ISD and HEB ISD boundaries may subject its lease holders to pro rata taxation from both ISDs because the revenue in a pooling agreement is shared by those in the pool.

Well Identification. The appraisal sheet should contain the Texas Railroad Commission (RRC) well / lease identification. (q.v. City / State Regulations) This can be checked against the required sign at the Well site. If this is incorrect, notify the appraisal district and a city inspector. If no action is taken, notify the RRC. If no Identification number appears on the appraisal notice contact the appraisal district.

Rendering Taxes. All producing Mineral interests are subject to appraisal. Should a Lease be non producing it is valueless for tax purposes. However, one may wish to render it for taxation and receive a nominal tax as proof of ownership. Contact the Appraisal District.

Protest Procedures. A protest can be made to a Mineral appraisal. Tangible evidence must be presented to the Appraisal Review Board before they will hear the protest. Upon receipt of the appraisal be prepared to complete the protest form, and accompany copies of any MISC-1099 forms, royalty check stubs or summaries, signed lease agreement, signed division order, and the DCF appraisal to the address indicated on the protest form or appraisal notice. Include a notarized letter/ affidavit and supporting evidence for the protest. If protesting the value you must provide evidence in the four areas or parameters in the Mineral Value Calculation.

Seizure. Unpaid property taxes can result in seizure of property by governmental agencies. Information on seizures can be found in the Texas Property Code, Subtitle I , Chapter 33, Subchapter E. Consult your local library, visit the State Comptroller website, or seek Legal counsel.

Income Reporting. Lease payments are classified as income and should be reported to the proper governmental agency. The payer is required to send MISC-1099 forms to all payees.

OIL AND GAS INFORMATION CITY REGULATIONS

City Ordinance. The City of Fort Worth has adopted a Gas Drilling Ordinance effective June 21, 2006 covering Gas drilling within the city limits. The ordinance addresses control of gas drilling through a Permitting process. Operators (Oil & Gas companies) are required to secure one of three types of permits before they can drill. Control of the Permits is by virtue of City employed Gas Inspectors. Each Permit type is issued on the basis of its proximity to a property that is defined as Protected Use. It is unlawful to drill without a permit. Currently, there are no Ordinances for Oil Drilling, Transfer stations, field processing or storage units, or Gas Compression Plants except as contained in this ordinance. Zoning is not required or specified in this Ordinance.

Gas Inspectors. The City employs Gas Inspectors who review and approve all Drilling Permits. Gas Inspectors must be Petroleum Engineers. They are also responsible for inspection of drilling sites and completed well sites. Inspection of each well site is required annually. Gas Inspectors insure compliance with City Ordinances and State and City Fire Codes on each well site. Any violations will result in a Citation. Failure to respond properly to a citation shall cause revocation of the Drilling Permit

Protected Use. A property may be defined as having Protected Use if it is a residence, religious institution, public building, hospital, school, or public park.

Permit Types. Three classifications of Permits are available. *High impact Permit*, which is required if the well head is to be less than 600 feet from a Protected Use property. *Urban Permits*, are issued if the well head is between 600 and 1000 feet from a Protected Use property. *Rural Permits*, are issued if the well head is over 1000 feet from a Protected Use property. No Permit is issued for well heads within 200 feet of a Protected Use property. Texas Local Government Codes (Title 8 Chapter 253 Sec. 253.005 (c)) prohibit well heads closer than 200 feet from any residence. A permit is in effect from approval to well capping (abandonment). A blanket permit can be issued to cover several wells. Any changes to a well depth will require a new permit. No permits will be issued for a flood plain without a Flood Plain Development Permit from the Engineering Department. Without any action, Permit applications expire in 180 days. The Texas Railroad Commission (RRC) requires a permit for any well drilled in the State. The RRC regulations conform to Spacing and Density which protect confiscation of property (Oil and Gas) and waste of resources. The RRC has no rules for proximity to Protected Use.

Permit Waivers. Hi-Impact Permits require written recorded (County) waivers from all affected Protected Use parties and must be approved by City Council and subjected to public hearings. Public hearings require City notification of all parties within 1000 feet of the site 20 to 30 days prior to the hearing. City Council may approve a Hi-Impact Permit if not all affected Protected Use parties sign a waiver.

Permitting. An application for a Permit must be obtained from Fort Worth's Development Department. The Operator must complete the application and submit it to a City Gas Inspector for approval. All Operators or their agents are required to be properly identified. The application requires the Operator to furnish a proper Road Repair Agreement; Original Bond or Letter of Credit; Current Certificate of Liability Insurance; Copy of the Texas Railroad Commission (RRC) Drilling Permit (W-1); Texas Commission on Environmental Quality (TCEQ) form of Depth of Usable Quality Ground Water Surface Casing and each well depth; Certified survey plat of surface location, penetration point and well bottom location; Legal description of drilling boundary; Proposed transportation route for equipment and products; Video of current road conditions; Operations site plans for production and completed operations; Public utility requirements and water sources; Photo of well site signage; Hazardous Materials Plan; Emergency Response Plan and Street Use Permit; Environmental Protection Agency (EPA) Storm Water Pollution Plan and Federal Emergency Management (FEMA) identified Flood plain / way permits, and a Landscape Plan.

OIL AND GAS INFORMATION CITY REGULATIONS

All High Impact Permits, in addition to the above, must also conform to Engineering Department Specifications which includes a plat of topography, structures, well head, equipment, facilities and distances. Hi-Impact well sites are required to be posted with a sign at the proposed site designating it as Hi-Impact.

Site Requirements. Pad site size is limited to 5 acres. No discharges into the City sewer system, ditches, creeks, streams or rivers without a City Discharge Permit. No onsite electric generation. Fracing during nighttime hours is prohibited, unless by special permission of Gas Inspector. No gas vent emission or burn torches permitted unless specified by the Texas RRC and at 300 feet. No refining except for conventional gas separator or inline heater. No grass or weeds within 100 feet. Signage must be displayed containing notification information and easily visible. On street parking is prohibited and will be enforced by City Police. Well heads must be 75 feet from a public road or ROW, either existing or proposed. Pipelines may not interfere with existing utilities. Site development work may not occur on a Sunday. Hi-Impact well operations are restricted to daytime hours. Daytime hours are from 6:00 AM to 7:00 PM. Nighttime hours are 7:00 PM to 6:00 AM. Wells cannot be drilled within 200 feet of a fresh water well and Operator must provide water analysis of any fresh water well within 500 feet, pre / post drilling.

Environmental. Ambient noise levels 100 feet from Protected Use property shall be 5 db daytime and 3 db nighttime. The ambient noise level for fracing operations is 10 db and 5 db for backflow operations. Gas lift compressors cannot exceed noise levels in this Ordinance. Combustion engines must be muffled. All mud pits must be lined, circulating or be closed loop. Closed loop systems are required on all hi-impact wells. Finished pits must be dewatered, back filled and compacted in accordance with Texas RRC rules. No waste water, bits, cuttings, tools or other items can be buried onsite. No commercial salt water disposal wells are permitted in the City. Permits for lease only non commercial salt water disposal wells on Texas RRC approved disposal areas requires City Council approval if within 1000 feet of a Protected Use property. Waste water must be stored in portable steel containers. Liquid hydrocarbons may not be closer than 100 feet from structures. After completion, well site must be landscaped to prior or better conditions. Trees must be present or planted to provide a 40% canopy within 200 to 600 feet of a Protected Use property or a 30% canopy within 600 to 1000 feet. Planted trees must have a minimum 3 inch diameter and have a guarantee replacement for two years. Certain species are required from a supplied list. After drilling, servicing, spills, leaks, etc. the well site must be free of debris. Equipment and facilities must be clean and painted. After well abandonment, the well is capped and all equipment removed, a copy of Texas RRC compliance information is forwarded to the City.

Safety. Storage tanks cannot be within 25 feet of a source of ignition. Well heads, after fracing, must be enclosed in a six foot wire fence with gate and lock and conform to specifications of this Ordinance. A Watchman must be on duty 24 hours on an unoccupied well site. No structures may be built over an abandoned well. Trucks above 3 tons are confined to truck and commercial routes. Use of any explosives require a Fire Department Permit. Fire prevention equipment must be installed. Material Safety Data Sheets (MSDS) information must be available to Gas Inspector on each well.

City Property. The City approved the leasing of City owned property for Gas exploration in August 2004. Bonus amounts and Royalty revenue derived from Gas production is credited to various accounts. Drilling under a park, revenue goes to a park account, under an airport, to an aviation account. Solid waste, Water, General Properties, rights of way are other accounts. General Properties goes to the General Fund. There is no revenue from streets,. Texas Local Government Code Title 8 Chapter 253 Sec. 253.005 (b) prohibits municipalities from leasing alleys, streets, and public squares. The Engineering Department manages the City Lease Program.

OIL AND GAS INFORMATION STATE REGULATIONS

Natural Resources is an area in which the State of Texas has been a traditional leader and model in their development and conservation, particularly in Petroleum (Oil and Gas). Texas is now resurgent as a new powerhouse in the Gas Industry with Tarrant and surrounding counties leading the way. Development of these resources bears a heavy responsibility for the State Regulatory Agencies to properly manage this effort both environmentally and economically. Prime responsibility falls to the Texas Railroad Commission (RRC).

Formations are strata or layers of particular types of rocks identified Geologically and Geographically. Rocks are categorized by their method of creation. Igneous rock (e.g. granite, basalt), created by volcanic activity .

Sedimentary rock (e.g. Sand, Shale, Limestone, Salt, Coal, etc.) by deposition, erosion and weathering.

Metamorphic rock (e.g. Slate, Marble, Schist), by heat and compression. Sedimentary rocks associated with organic and marine deposits have oil and gas content. Formations are mostly named for their Geological identity and their Geographic location (e.g. Austin Chalk, Las Cruces Limestone, Barnett Shale). A major location of Sedimentary rocks with oil and gas are in a Basin. Geologically, a Basin is a depression formed at one time acting as a repository of sedimentary material from deposition, erosion and drainage from streams and rivers into a lake or inland sea. Texas has several Basins, Anadarko, Palo Duro, Permian, Val Verde, Delaware, Gulf Coast, East Texas and Fort Worth. Some confuse a Geological Formation with Geological Time Periods (i.e. Jurassic, Cretaceous, etc.) which represents the age in which Formations are created. The Texas Barnett Shale was formed about 300 million years ago in what Geologists call the Paleozoic Era Mississippian Period or simply Mississippian Age.

Oil & Gas is a natural resource used as an energy source and in the manufacture of innumerable goods such as lubricants, plastics and chemicals. Oil is initially made of decaying organic matter such as plants and animals. Burial of this matter and heat and pressure will turn the organic matter to Kerogen, then Hydrocarbons, then Oil and Gas. Oil is found primarily in natural underground reservoirs trapped between Geological Formations. Referred to as Crude Oil or Trap Oil it is a mixture of liquid hydrocarbons that remain liquid at atmospheric pressure. Small amounts of non hydrocarbons may be captured with the oil. Natural Gas, a mix of hydrocarbons, may occur in a reservoir or with oil either as a cap or commingled with the Oil. Gas recovered as part of oil is called Casinghead gas. Hydrocarbon gases are methane (Natural), ethane, propane, butane, and pentane. Oil & Gas is present in other sources such as Tar Sands, Coal Beds and Shale rock. Tar Sands are reservoirs of oil that have reached the Surface and manifest themselves as asphalt or tar pits. The most famous is the La Brea Tar Pit in Los Angeles. Coal deposits, called coal beds, start off as organic material that progressively changes under natural pressure and heat within a formation. These stages result in going from Peat, to Lignite, to Bituminous, to Anthracite. During this process the carbon level increases along with the hardness and heat value (BTU). Coal can be compressed to the point of becoming a gas or oil. This process is called Coal Gasification and Lignification respectively. Oil Shale is a rock that contains some organic matter and Kerogen. Applying heat will evolve Kerogen into hydrocarbons then oil and gas. Oil from oil shale is sometimes called an "artificial oil field". Had the shale been buried deeper it could have formed oil naturally.

Barnett Shale is a sedimentary geological formation of slick, black, shale rock centered in the Fort Worth Basin. The shale has an oil and gas content which can be extracted. The Barnett Shale Formation was geographically named after Barnett Springs / Creek 4 miles East of San Saba Texas where an outcropping was found. An outcropping is where a Formation is exposed at the surface. The Springs were named after John W Barnett. The potential for commercial quantities of gas in the formation was discovered by Mitchell Energy Company in Wise County with a reopened well (C. W. Slay #1) on October 15, 1981. Mitchell has been acquired by Devon Energy January 2002. The initial Wise County well was not economically successful. Since then, improvements in drilling and recovery techniques coupled with rising gas prices and demand for gas energy have made drilling in the Barnett practical. The core of the Barnett Shale Formation is currently located in Wise, Denton and Tarrant Counties. Parker, Johnson, Bosque, Comanche, Ellis, Erath, Jack, Montague, Palo Pinto, Hamilton, Hill, Hood, and Somerville are also affected. This area is about 5000 square miles and is thought to be one of the largest deposits of natural gas in the United States. Estimates put Gas reserves at 27 trillion cubic feet. The Barnett formation is actually two, the upper (150 feet thick) and the lower (300 feet thick) and at a depth of 6500 to 9000 feet. In most of Tarrant County they are separated by the Forestburg Limestone Mississippian Period. Westward it pinches out and the two come together. The Barnett is capped by the Marble Falls Limestone Mississippian Period and supported by the Viola Limestone Ordovician Period and the Ellenburger Dolomite Ordovician Period. Limestone is an impermeable rock, shale is permeable (porous).

OIL AND GAS INFORMATION STATE REGULATIONS

Pool or Reservoir is in general a noun, meaning a place within a geological formation containing oil / gas. A porous (permeable) underground pocket containing hydrocarbons (oil and/or gas) confined by impermeable rock and having a single natural pressure system. Multiple reservoirs may be within a Formation and many may have no commercial value. Pool is often used as a verb, as in to pool individual leases into single lease or as an adjective as in pool agreement (q.v. Lease).

Oil or Gas Field is a geographic area consisting of a single reservoir or multiple reservoirs of oil / gas all grouped on or related to the same geological formation. There may be two or more reservoirs or pools in a field which are separated vertically and / or horizontally by intervening impervious strata and having a common gathering and metering system, the reserves of which are reported as a single entity. A field name is generally made up by the Operator. Current Tarrant County Field names in the Barnett Shale area are Newark East, Avondale, Jason Dvorin and Mulluniks. There are other Tarrant County fields such as Morris, Markum, G. T. , and Mountain Bluff in other deposits such as the Atoka, Strawn and Caddo Lime. Each named field has an assigned RRC number, designated as oil or gas and its date of initial discovery. Wells in the Meadowbrook Area are in the Newark East Barnett Shale Field #65280200 N 1981.

Lease is a term used to describe different functions and sometimes leads to confusion. A lease to a mineral owner is an agreement between them and a Lessee (i.e. Operator, Producer, Gas Company, etc.) for use of oil, gas or minerals. A Lease to an Operator also means a combining of the foregoing leases as one 'Lease' and an individual lease as a Tract. To further muddle the issue, the Operator may refer to a combination of leases by the proper name, Voluntary Pooling Unit (q.v. *Pool* , *Unit*) or simply Pooling Unit. Operators requesting RRC Permits submit names for a 'lease' which can be any size over 40 acres. However, most Gas leases are as near 640 acres as possible. Some Leases near the Meadowbrook Area are White Lake Hills, Brentwood, Sunset Oaks, Goodman and Gateway Park. An example of the individual leases in the Gateway Park 'Lease' are: West Fork LP @16.961 acres; Bednarik @ 3.685 acres; Dyer @ 21.983 acres; Gateway Park @ 490.566 acres; City of Fort Worth Tr. 1 @ 5.378 acres; City of Fort Worth Tr. 2 @ 25.679 acres; and Tandy Hills Park @ 105.245 acres for a total Pooling Unit of 669.497 acres. Wells on the 'Lease' are numbered in two ways. First, by the Operator usually in numeric order with alpha suffixes. An example of a Gateway Park 'Lease' well number is Gateway 3H. The H means Horizontal. Secondly, the Well is assigned an API (American Petroleum Institute) ten digit number by the RRC. The first two digits are a state code (42 Texas), the next three, the county code (439 Tarrant) and the last five a unique well number. The API number for Gateway Park # 3H is 4243931344. API numbers may not show the Texas Code on paperwork since it is implied.

Unit is a loosely used and confusing term which has resulted in several Court cases. In RRC parlance there are Drilling units and Proration units used for protection and conservation of Oil and Gas reserves (q.v. Density). In Lease terminology, there are two basic types of units. First is a Voluntary Pooling Unit which is also called a Lease by an Operator (q.v. Lease). This maybe a combining of smaller individual leases in to a larger composite acreage 'lease' or breaking a very large individual lease into smaller 'leases'. This type of Pooling Unit may also be called a Production or Producing Unit. Second, there is a Forced Pooling Unit which is created by the RRC and to which individual leases are enjoined. There are other units such as Fieldwide Recovery Unit, Enhanced Recovery Unit, and Retained Acreage Units that have various meanings but are more relevant to adjustments to field recovery and resource conservation situations. Each one usually has unique circumstances and are set out in special RRC orders

Well. There are basically five categories of oil and gas wells. The Discovery Well is a completed oil or gas well that has potential economic viability in an area previously devoid of oil and gas. Prior to drilling it is referred to as an Exploratory or Wildcat Well. Independent Drillers of Exploratory wells are called Wildcatters. If the well is not successful, it is referred to as a Dry Hole. A Production Well is a well to increase recovery of oil and gas in an area with reserves found by a Discovery well. Production wells may be referred to as Offset wells and Infill wells. If a production well is drilled and no production is achieved it is a Dry Hole. An Injection Well is a well used to insert hydraulics or heat into an oil or gas deposit in the attempt to draw or push its gas or oil to the surface or to another well usually called a Recovery well. The term Injection is often used for Disposal. A Disposal Well is used to dispose of drilling waste into a known strata approved by the RRC for such purposes. The RRC maintains strict requirements and specific locations where these are located. Meadowbrook has a Disposal Well located on the Brentwood SWD

OIL AND GAS INFORMATION STATE REGULATIONS

Lease near the NW corner of the intersection of Oakland and East 1st St. Well depth is 13,000 feet. The 'Lease' well number is 1 and the API number is #4243932114. A Geothermal Well is drilled to obtain heat either from the natural geology or from induced heat from a heatable source such as coal or lignite. Induced heat wells are called In-Situ Wells. A principle use of a Geothermal well would be to heat circulating water for industrial use such as running a steam turbine. In recent years shallow wells (e.g. 300 feet) may be called Geothermal, Environmental or 'Green' wells. Their purpose is to circulate water through a constant level temperature (e.g. 67 F Deg..) for heating and cooling of surface structures to reduce the use of fluorocarbons and hydrocarbons.

Drilling a well is accomplished by different methods. The most common method is vertically. The well is literally drilled straight down toward the center of the Earth. Another method is called a Directional, Inclined or Slant Hole where the drilling is straight down but inclined from the vertical. The principle method used to drill in the Barnett Shale is called Horizontal where the well starts out vertically but at some point is gradually turned horizontally and as parallel as possible within the deposit and continuing for several thousand feet. The Horizontal portion may be called a lateral. Several wells can be drilled from one well site. This method has several advantages. It limits surface damage, it optimizes recovery from the deposit seam, and has little impact on the area compared to vertical drilling. Horizontal Wells are called Horizontal Drainhole Wells from the ability to open a hole along its horizontal length to allow drainage of oil / gas into the hole or to relieve pressure. RRC rules control this process to prevent confiscation of Oil / Gas. Horizontal drilling employs special equipment called Mud Motors and other devices to control the direction of the drill. While drilling, it is possible to go up, down, left or right. This ability can avoid areas of difficult drilling as well as divert the well bore hole around unleased property. The identified location of a well is a point on the surface over the subsurface location of the bore hole termination point. In vertical drilling the Penetration or "spud" point of drilling and the Well Head are the same relative positions on the surface as at the bottom of the hole. In horizontal or directional drilling they will be different.

Perforating is a method of punching a hole in the well casing to get at the oil / gas. After a well is drilled a device is lowered into the hole to determine the location of the reservoir. The process is called Electric Logging. The device sends a wave signal like 'radar' and records the echo on a log. Reading the Log provides the Operator with information as to where to perforate the well casing. A perforating gun, loaded with shape charges, is lowered into the well and at the proper point is electrically fired. The charge penetrates the well casing and provides a means to draw out the oil or gas. In Horizontal drilling the Logging procedure is slightly different but, perforating is the same.

Fracturing or "fracing" is a term used to describe the application of pressure to a shale or sand deposit to force out oil and / or gas. This application is used when the shale has low permeability such as the Barnett. Fracing increases the surface area of exposed shale by fracturing or opening the rock, thereby increasing permeability. There are several methods of applying pressure such as flooding, heat and hydraulics. Hydraulic Fracturing is the method used in releasing Gas from the Barnett. The type of Hydraulic fracturing used is a 1997 technique known as slick water or light sand fracing which uses special chemicals combined with fresh water and sand. The chemicals used are friction reducers, biocides, scale inhibitors, surfactants and a propping agent (sand) to hold the fracture open. These chemicals lubricate well bores for tools, prevent scaling of pipes, kill bacteria in water muds, disperse and emulsify surfaces, and act to make water and oil wetter. A Fracture can extend 1500 feet on both sides of the fracture point.

Water. Texas has nine major aquifers, one of which is the Trinity. This aquifer stretches from below San Antonio North into Oklahoma fairly parallel with Interstate 35. Another minor aquifer, the Woodbine, also parallels the Trinity. Tarrant County is served by both. The Trinity is a reservoir from the Cretaceous period which represents the Formations closest to the current surface. The Trinity is weak in Tarrant County and residents and businesses are served mostly by surface water (about 85%). Well fracturing processes use about 1.2 million gallons of fresh water per well along with about 50,000 pounds of sand. About 60% of the water is ground water from these aquifers. The Texas Water Development Board (TWDB) estimates increases in well water usage will be on a par with other usage increasing about 7% to 13% by 2025. Several companies such as Fountain Quail, DTE Gas Resources, Devon Energy and Burlington Resources are experimenting with a recycling process that would turn drilling waste water into pure fresh water thus reducing dependency on fresh water reserves. Trinity wells are usually under 1000 feet deep with average water depth between 300 and 500 feet.

OIL AND GAS INFORMATION STATE REGULATIONS

Producing Well is a commercial viable well recovering oil or gas. A Producing Oil Well is often identified by a Pump Jack over the Well Head. A Pump Jack is a large piece of equipment that resembles a 'Hobby Horse' in its up and down motion. The moving arm (i.e. Walking Beam) on the Jack is connected to a Sucker Rod which draws and pumps oil out of the well into the piping system leading from the well. The Jack is operated by electric or diesel engines. In old oil fields the Jacks were often operated by a maze of cables connected to a central engine. Some oil and all Gas wells operate on the natural pressure within the reservoir. In these instances the Well Head is topped with a 'Christmas Tree'. This is a combination of valves and gauges that regulate the flow out of the well and into a pipe(s) to a Transfer Station (q.v. Pipelines) or a Separator. Gas from the well head may or may not have a high degree of contaminants and liquids. A low degree is called Dry Gas, a high degree is called Wet Gas. Dry Gas may be acceptable to going directly to a Transfer Station and entering the Pipeline System. Wet Gas is piped from the Well to a Separator. Separation is done by gravity filters or inline heaters. The non gas fluids usually referred to as Salt Water or Brine are piped to a Disposal well or a Storage Tank Battery where it can be trucked away for proper disposal. Gas is then routed to a Compression Station where it is treated before entering the pipeline system at a Transfer Station. The series of pipes within the Oil or Gas Field is called a Field Pipeline Gathering System.

Shut-In Well is a producing well that is temporarily stopped from producing. Several conditions can cause this situation. The well may need servicing or repair work, a legal problem in the form of a Court Order, pipeline difficulties, or cause or action of a regulatory agency for a litany of reasons such as public safety or regulation violations. Once the difficulty is resolved, the well usually resumes production.

Abandoned Well is a well that has ceased to produce in commercial quantities. This type of well is said to be Capped. The RRC has specific rules and regulations covering abandoned wells. They must have all equipment removed, pipelines disconnected and the well bore sealed permanently shut and inspected by the RRC. Sometimes a well may be reentered to deepen it for other reserves. It will require all the procedures required in drilling a new well.

Pipelines are different sizes and serve different purposes. Gas from an oil or gas field arrive at a Field Transfer Point. This is where Gas leaves the hands of a Field Operator and goes to a Pipeline Operator. Gas flow is carefully metered for transfer payments. Once into the Gas Pipeline it may go to other Transfer points where it may be routed to a Gas Plant, or sent to larger Transfer Points through Gas Transmission Lines where it may be stored or sent to an end user. Some Gas may leave a Field Transfer Station and still be considered too wet for use. This Gas will be sent to a Gas Plant for additional treatment and then into the pipeline system. Gas Transmission Lines are classified as Trunk Lines or Grid Lines. Trunk Lines are used for transporting over long distances. Grid Lines are mainly used for Regional use. Gas storage is principally located underground in depleted oil or gas fields, salt caverns, or Aquifers. Texas has 20 depleted fields, no aquifers, and 15 Salt Caverns capable of holding about four billion cubic feet of gas. Natural Salt Caverns are called Salt Domes. Gas storing is usually done in the summer months to meet winter demands for heating. Market Center Hubs are where multiple Transmission lines meet, gas is stored or rerouted into other lines for commercial transactions. Texas has Market Center Hubs in far West Texas (4), East Texas (1), and along the Gulf Coast (5). The largest Hub in the Southwest is at Arath La. called the Henry Hub. Pipelines through heavy populated areas are limited to the capacity and strength of the pipe. To meet safety standards the pipeline must use multiple lines or increased pipe thickness. Regulation is under FERC (Federal Energy Regulatory Commission) and also the Texas RRC in Texas.

Texas Railroad Commission (RRC) is the principle State agency for regulating the Oil and Gas Industry. The RRC was created in 1891 to regulate private railroads for shipping rates and passenger fares and locations of service. The Commission has acquired added regulatory responsibilities over the years; Oil and Gas (1919); gas utilities (1920); buses and trucks (1931); liquified petroleum gas (1939); surface mining and reclamation (1976); alternate fuels (1991). The RRC transferred responsibility of Railroads, Trucks and Buses to The Department of Transportation in October 2005. The Commission is composed of the following Divisions: Alternative Fuels; Oil and Gas; Gas Utilities; Pipeline Safety and Surface Mining. The abbreviation RRC is a common practice and is used in this document to mean Texas Railroad Commission. However, the use of the abbreviation TRC is coming into vogue lately.

OIL AND GAS INFORMATION STATE REGULATIONS

Oil & Gas Division of the Texas RRC regulates the exploration, production and transportation of oil and natural gas in Texas. Its principle mission is to prevent waste of the States natural resources, protect the correlative rights of the mineral interests; prevent pollution and provide safety in certain matters. Fourteen Districts compose the Oil & Gas Division. Tarrant County is in District 5, Kilgore office. However, the Newark East Field was discovered in Wise County District 9, Wichita Falls office and authority resides with the initial location of the Field. The main office of the RRC is in Austin. District Offices ensure compliance of RRC rules through field inspections, witnessing of completion, plugins, testing, etc. and investigating of complaints, blowouts, fires and spills. The Commission does not have regulatory authority over private or public roads or their use, traffic noise, odors, pipeline easements, private lease agreements or royalty payments. Contact Texas Department of Transportation (TXDOT), Local county / city governments, TCEQ (Texas Commission on Environmental Quality), Texas Secretary of State or Texas State Comptroller, as appropriate.

Permits are issued by the Texas RRC to allow drilling for Oil, Gas, Injection, Disposal and Geothermal wells. It is illegal to drill without a RRC permit anywhere in the State of Texas whether onshore or offshore. The granting of Oil and Gas Drilling Permits are based on established spacing and density rules. Pollution is controlled by waste management Permitting of pits, land farming, discharges, haulers, and hazardous waste. All Operators submitting Permit applications to the RRC are assigned a number. For example, Chesapeake Energy is #147715.

Spacing Rules are Statewide regulations the RRC applies to each oil and gas well and are known as Rule 37. (Texas Administrative Code, Title 16, Part 1, Chapter 3 Rule 37) Statewide rules require that no oil, gas or thermal well shall be within 1200 feet of a completed well in the same horizon or deposit or nearer than 467 feet from any property line, lease line, or reservoir subdivision line. The Commission may grant an exception within shorter distances if determined to be necessary to prevent waste or confiscation of minerals. No drilling is allowed until complete RRC approval of an exception. The RRC may designate a group of wells in an area as being attached to a particular reservoir(s) or Field within a deposit wherein, they are subject to additional rules called Special Field rules. Field Rules are customized by the Commission for a Field. Newark East has 330 feet lease spacing on 320 acre units with optional 20 acres per unit.

Density is the RRC term used to define the number of wells that may be contained in a given amount of acres. Rule 38 of the RRC regulations regulate the density of which wells may be placed to one another. The acreage patterns are referred to as units. There is a Drilling unit and a Proration unit. A Drilling unit is the amount of acreage assigned to a well for drilling and it is determined by the Spacing Rule. A Spacing Rule of 1200 / 467 allows one well per 40 acres. A Proration unit is the acreage assigned to a well for controlling the allowable or controlled production of the well. Proration Units exist under special field rules only. The Proration Unit for Newark East Field Gateway Park Wells #1H, 2H and 3H are 223.16 acres; 223.16 acres; 223.17 acres respectively equaling 669.497 acres or the amount in the Voluntary Pooling Unit.

Allowables are set monthly by the RRC for a well's daily production within the State. An Allowable is the daily rate a well is allowed to produce Oil in barrels (Bbl) or Gas in thousands of Cubic feet (MCF). Allowables are assigned according to such factors as: tested capability; reservoir mechanics, market demand and past production. The RRC also receives and manages operator lease production reports. The RRC audits disposition paths to insure allowables are not exceeded. The purpose of allowables is to conserve natural resources.

Texas Secretary of State (SOS) is the caretaker of the rules and regulations for operation for various governmental agencies. The Texas RRC operating rules for Oil and Gas can be found under Title 16 of The Texas Administrative Code. The Legislative Statutes for Municipalities are Title 8 of the Texas Local Government Codes.

Texas Comptroller is responsible for maintaining revenue records and is therefore responsible for revenue information related to Oil and Gas production. The Comptroller is also responsible for tax records and collections involving the sale of Oil, Gas or Minerals within the state. Oil and Gas Taxes are referred to as Severance Taxes and are currently set at 4.6% for Oil and 7.5% for Gas. Severance is the separation of the States Natural resources to commercial use. The Comptroller provides revenue information on mineral sales for Texas Appraisal Districts in order to levy taxes at the Local levels of government.

OIL AND GAS INFORMATION COMPANIES

Selected Companies actively engaged in oil / gas operations in the Meadowbrook Area or nearby.

Chesapeake Energy is Headquartered in Oklahoma City and is the third largest independent producer of natural gas in the United States. Company operations are focused on exploration and development. Chesapeake is traded on the NYSE (CHK) and of Mid-October 07 was \$39 with \$0.06 dividends. Trading on volume of 10 million shares with a 52 week high \$38 / low \$27. P/E Ratio was 10.45 with 445 million shares outstanding. Included in S & P 500. Major player in the Barnett Shale. Chesapeake has 5800 employees. Aubrey K McClendon 47 Chairman and CEO, Marcus C Rowland 54 CFO, Steven C Dixon 48 COO / Exec VP Operations, J Mark Lester 54 Exec VP Exploration. Second quarter 07 revenue was 2,104,000,000.

Dale Property Resources LLC was formed in 2006 as a Land Services Company in partnership with Dale Gas Partners LP (Lawrence B. Dale Owner) and Chesapeake Energy Corporation. Dale Gas Partners is also associated with Dale Resources LLC and Dale Operating Company. Dale Property Resources LLC is actively engaged in acquiring oil and gas leases in the Fort Worth Area. Dale Resources has been actively leasing since 2003 in the Trinity Westfork flood plain with more than 36,000 gross acres. Dale Operating has drilled over 360 wells (70 Horizontal) and 19 in the Fort Worth Area. Dale Resources office is at 2100 Ross Ave Ste 1870 Dallas, Tx 75201 Phone 214-979-9010. Dale Operating has participated in drilling the Gateway Park Unit, now operated as Chesapeake Energy. Dale companies are in good corporate standing with the Secretary of State. These are privately held corporations and no information is available.

Paloma Resources LLC is a limited liability Oil and Gas Corporation engaged in Exploration and Production of Oil and Gas Reserves. Paloma's primary Texas operations at this time are The Lobo / Wilcox trend in Webb and Zapata Counties and the Barnett Shale in North Texas. Palomas officers are Christopher N O'Sullivan President, John O. Hastings Jr VP Exploration, John V. Whiting VP Operations, Mark J. Gabrisch VP Land and David Elmer CFO / Treasurer. Paloma Managers in the Barnett Shale Operations are Chris Hammack Operations and Pat Hawley Land. Ms. Hawley is assisted by Marc Pace and Leslie Gore in Fort Worth. Paloma Resources LLC main offices are in Houston Texas 1021 Main 77002 Phone 713-650-8500. They are in good standing as a corporation according to The Secretary of State. Paloma Resources LLC is probably connected to Paloma Resources, Inc a Canadian Company based in Vancouver. Paloma Resources Inc was founded in 1985 as Tycoon Ventures. The name changed in 1995 to Paloma Ventures and in 2004 to Paloma Resources. The Executives and members of the Board are: Johannes Peterson 33, CEO / Director and Micheal Raferty 63, CFO / Audit Committee Chair. Information on any other Board members or Executives is unavailable. Paloma, Inc stock ticker was PLOH on the TSXV Venture Capital Exchange. The Corporation has increasingly lost money over the past several years according to market reports. The last stock offering was July 12, 2007 for 2,083,333 shares at 0.24 dollars Canadian.

Holland Resources has been formed by Paloma Resources to acquire gas leases in the Barnett Shale. No information is available. including information from The Secretary of State.

Devon Energy Corporation is a leading independent oil and gas company, Headquartered in Oklahoma City, OK and employing about 4600 employees worldwide. They are engaged in exploration and production and are listed on the NYSE (DVN) and included in the S & P 500. Founded in 1971 by John Nichols and Larry Nichols it went public in 1988. Acquisitions and mergers included Hondo Oil & Gas 1992, Kerr-McGee NA 1996, PennzEnergy 1999, Santa Fe Snyder 2000, Anderson Exploration 2001; Mitchell Energy 2002; Ocean Energy 2002 and Chief Oil and Gas 2006. As of Mid October 2007 Devon is trading on the NYSE on volume of 4 million shares at a 52 week high of \$90 / low of \$63 and quote of \$86. Their P/E Ratio is at 14.21, last dividend of \$0.14 on 445 million shares outstanding. There are 11 members of the Board. John Nichols Chairman Emeritus, Larry Nichols Chairman and CEO 64, John Richels 56 President. Senior Executives are Larry Nichols, John Richels, Stephen J Hadden Sr 52 VP Exploration and others. Devon has significant domestic and foreign holdings and is a major player in the Barnett Shale. Second quarter 07 revenue was 2,929,000,000.

XTO Energy is a independent oil and gas company Headquartered in Fort Worth, Tx. XTO is on the NYSE (XTO) and in mid-October 07 traded 4 million shares @ \$64. XTO has 386 million shares outstanding with a P/E ratio of 14.80 and a dividend of \$0.12. Member S & P 500. 1939 employees. Bob R Simpson 58 Chairman / CEO, Keith Hutton 48 President, Louis G Baldwin 57 CFO. Second quarter 07 revenue was 1,329,000,000.

OIL AND GAS INFORMATION GLOSSARY

Listed below are layman descriptions of some terms associated with the Oil and Gas Industry. These descriptions have no legal value, they are presented only to acquaint the reader with the meaning of some industry phrases they may not be familiar with and to assist in reading other material.

Abandoned Well. See Capped Well.

Acreage is an amount of land measured in acres. One acre equals 43,560 square feet. To determine acreage on a plot of rectangular land multiply the width by the depth and divide the result by 43,560. For example, if your plot is 100 feet wide and 200 feet deep you have 20,000 square feet ($100 \times 200 = 20000$). Your acreage would be 0.459 acres ($20000 / 43560$). To calculate acreage on odd shaped plots with curves, circles and non parallel lines you should have it calculated by a Professional Land Surveyor.

Acidizing is a technique using acidic solutions to clear fractures to increase access to oil / gas deposits.

American Association of Professional Landmen (AAPL). is a national organization of Professional Landmen headquartered in Fort Worth, Texas.

American Petroleum Institute (API). An organization comprised of companies in the Petroleum Industry concerned with industry standards and other related matters.

Appraisal Review Board (ARB). A Board of persons assigned to each Appraisal District to evaluate appraisals, review protests and adjust appraisals accordingly.

Attorney, Oil and Gas is a practicing legal counsel that specializes in Oil and Gas agreements, leases, mineral interests, taxes, production, regulations and other aspects of the industry.

Average Posted Market Price is the value of oil & gas at specified times. State regulations require Oil and Gas well operators to post production figures of each well at regular intervals. At that time the market value is determined. Market prices can vary by location and by quality of the commodities so the average is used. That price determines the value of the particular wells production that in turn determines the value of the individual interests in the well. Also used to determine appraisal values for taxes.

Bank Draft Clause. Prohibits the use of Bank Drafts in payment of Royalties and requires payment in cash or check. May require Cashiers Check. Used primarily to protect Lessor against cancellation of draft and refusal to pay when transfers or trades of interests are made.

Barnett Shale is a particular geological deposit or strata of shale rock that has oil / gas potential. The product is removed from the shale by exerting pressure and extracting the resultant out.

Basin. A geological term meaning a depression such as an inland sea or lake.

Bbl. Measurement of one barrel of oil in gallons (42 US, 34.97 UK). Equivalent to 158.987 Liters

Block. A pulley system for lifting heavy weights. Commonly called a Block and Tackle. Used to refer to a Crown or Traveling Block in the Drawworks on an Oil Rig.

Blowout. A n expression used to describe a malfunction at a well head. Texas RRC requires blowout preventers on all wells for safety. Blowouts occur when the Preventer fails or during maintenance activities. The result of a Blowout is the escape of Oil and /or Gas.

Bonus. An amount of money paid to an oil, gas or mineral owner to sign a lease agreement. This is also called Bonus Money or Signon Bonus. The Lease may refer to it as Compensation for signing. Bonus amounts are usually paid on a fixed amount per acre. For example, if you own 40 acres and the bonus payment is \$1000 per acre then you would receive \$40,000 ($40 \times 1000 = 40,000$).

Bradenhead. See Casinghead.

BTU. British Thermal Unit. The amount of heat required to raise 1 lb of water 1 degree F. One cubic foot of natural gas releases about 1000 BTUs.

Cable Tool Drilling. A older method of Drilling employing a rig with a drill bit on a drill stem and a heavy weight attached to a cable that is raised and dropped to pound a hole in the ground versus using a rotary drilling method which cuts a hole. The Rig is called a Cable Tool Rig. These are still used but mostly for shallow water wells.

Capped well is a well sealed by cementing the hole and welding the casing. This happens when the well fails to produce economically or when a regulatory agency permanently prohibits further production for safety or legal reasons. Production equipment is removed and the well head is physically closed. Sometimes referred to as an abandoned well. The RRC strictly regulates the procedures and record keeping.

Casing. Pipe(s) within the borehole of a well. Installed to prevent cave-in and pollution of groundwater and to connect the reservoir to surface equipment. Cement is pumped between the outer pipe and bore hole wall. Installation of casing is called "Running Pipe".

OIL AND GAS INFORMATION GLOSSARY

Casinghead. A name used for several purposes. If used as Casinghead Gas it means the Gas retrieved as part of oil from a deposit. If used as identifying equipment on a well it is part of the Wellhead and the interface between the well's casing and the Christmas Tree. Also called a Spool, Bowl or Bradenhead.

Christmas Tree. An assembly of pipes, valves and gauges at the head of an oil or gas well

Collar. Connection for attaching a Drill Bit to a Drill Pipe. Part of a Drill Stem.

Clause. See Covenants.

Closed Loop System. A Drilling Mud system where the mud is recycled in an enclosed loop that removes only drilling debris. Also called Closed Mud System. Open systems dump mud and debris in a pit.

Covenants are the terms or clauses within a contract or agreement between two or more parties.

Crown Block. A part of a Rotary Rig Drawworks. A pulley system located at the top of the Rig. Connected by cable to the Traveling Block and Drum.

Delay Rental Clause. A feature of a lease that extends the Lease beyond its primary term when operations are not begun within the term. May require additional Bonus payment and / or periodic payments until operations commence. May also involve negotiable extensions of the end of the term.

Division Order is a signed document that details the individual Division of Interest (DOI) for a lease's revenue expressed in decimals. If a Royalty is passed on thru heirship, each heir would need a separate Division Order designating their proportional DOI. Working interest is also divided up accordingly through sales and trades.

Depth Severance Clause. A feature in a lease that terminates a Lessee's rights below production depth at moment of first production.

Depths, Zones or Pays are terms used to identify underground pockets of Oil / Gas. A well may have multiple pay zones. For Example, an oil well may produce oil from a depth of 1500 feet from one Zone and also at 7500 feet in another Zone. Sometime Zones and Pays are called Pools.

Depth, Zone or Pay Clause. A lease feature restricting production to a certain depth, zone or pay, such as Barnett Shale or 7600 feet.

Disposal Well is used to dispose of waste water from drilling. Some wells are called Salt Water Disposals since the waste is referred to as brine or may contain brine content water.

Division Order Interest (DOI). The decimal number used in a Division Order to represent the amount of interest value for revenue payments. For example, if a Royalty interest is 1/4 (25%) in a solitary 64 acre lease the decimal value would be 0.2500 of revenue. However, if the lease was 64 acres in a pooling unit of 640 acres the decimal value would be 1/4 (0.2500) of 64 acres of 640 acres (0.1000) revenue or 0.0250 (10% of 25%).

Division Order Clause. Prohibits a future document such as a Division from altering the terms of a lease or withholding Royalty payments based on not signing the Division Order.

Drawworks. The lifting mechanism part of a Rotary Drilling Rig. Used to lift the drill stem. Consists of the Drum, Crown Block and the Traveling Block. The Traveling Block is connected to the Kelly part of the Drill Stem.

Drilling Companies are companies that are engaged primarily in the discovery and drilling of Oil, Gas wells.

Drilling Mud. Fluid pumped by a Mud Pump into a drill Stem which acts as a lubricant, to control drilling, remove cuttings, and line the walls of the borehole to prevent leakage and cave ins. Enters the Drill Stem via the Kelly flows down the Drill Pipe and returns via the space between the Drill Pipe and the Well wall. Contains chemicals for reducing friction, killing bacteria and inhibiting scaling as well as emulsifiers, dispersants and oil / water wetters. Also used is an additive called Bentonite which swells upon water contact. Useful for sealing seepage from water tables. Bentonite is used to seal fresh water ponds with porous bottoms.

Drill Bit. A cutting head attached to the bottom of a drill stem by means of a Collar. Type of bit used is relative to rock being drilled. Bits used in extremely hard rock may contain industrial diamonds. Part of a Drill Stem.

Drill Pad. A site or location for a Drilling Rig and accompanying equipment.

Drill Pipe. Threaded steel pipe in 30 foot sections. Part of the Drill Stem.

Drill Stem. The drill stem on a rotary rig has four components. A Kelly, Drill Pipe, Collar and Drill Bit. The Kelly is a 40 foot special steel pipe at the top coupled to a Rotary Table for turning. Attached to the bottom of the Kelly are 30 foot threaded sections of steel drill pipe. Attached to the bottom pipe is the Collar and attached to it is the Drill Bit. When drilling, the Rotary turns and the Drill stem turns.

Drum. Part of a Rotary Rigs Drawworks. Motorized spool for coiling and uncoiling the lifting cable.

Eminent Domain. The right of government to seize private property for a public need with fair compensation.

Entire Tract Clause. A lease feature applicable to Unitization where all of a tract must be included in a unit.

OIL AND GAS INFORMATION GLOSSARY

Environmental Protection Agency (EPA). Federal agency responsible for enforcing environmental laws and regulations to protect the Environment.

Estate is ownership of property. There are two estates, Real (Land & improvements) and Mineral. Mineral ownership includes oil and gas and takes precedent to Real ownership where the same property is concerned.

Environmental Clause. A lease feature covering restrictions on noise, air, ground and water pollution. Usually specific and applicable when not covered by City or State or Federal regulations.

Esthetic Clause. A lease feature covering restoration of surface to original or better appearance. May require planting of shrubs and trees. May be covered by City Regulations and usually applies to Well sites.

Fair Market Value is the value of a property (Real or Mineral) that would be expected in an open market with common knowledge of its value and ability to sell in a reasonable time frame.

Federal Emergency Management Agency (FEMA). Federal Agency responsible for management of federal assistance programs to citizens affected by emergency situations such as floods, fires, storms, and earthquakes. Control flood plain insurance and rate maps (FIRM).

Federal Energy Management Commission (FERC). A Federal agency responsible for regulation of Public Utilities and Pipelines.

Federal Insurance Rate Map (FIRM). Maps of flood plains used to control insurance rates and activities.

Fee is ownership of land and the right to pass ownership to any heir (fee simple) or select heirs (fee tail).

Fishing. Term used by Drillers when retrieving tools lost in a well hole.

Fort Worth (City of) is a governmental body located in Tarrant Co Texas that regulates the operation of Gas drilling within the City boundaries with a Gas Ordinance adopted June 21, 2006..

Fracturing or "Fracing" is a process of injecting water, heat or other products into a strata of rock or sand containing oil / gas. The process moves the oil or gas to an outlet source. Fracturing gets its name from the physical process of pressure fracturing shale to the point of opening the rock to increase permeability. Fracturing by liquids is called Hydraulic Fracturing.

Freestone Rider Clause. Similar to a Pugh Clause and applies to end of Lease primary term. Used in Texas.

Gas. See Petroleum.

Gas Gathering Lines. Gas pipe lines used to transport gas within a Gas Field to a Transfer Station on a Gas Transmission Line.

Gas Transmission Line. Gas pipe lines for transporting natural gas from one point to another. Large Transmission Lines for transporting over long distances are called Trunk Lines. Other Transmission lines serving a local or regional are called Grid Lines.

Geologist is a person who studies geological data, earthquakes, volcanic activity, plate tectonics, geological aging, rock compositions, mineral, gas and oil Deposits

Geophone. Electronic device used to detect seismic movement. Also called Jugs and Seismometers.

Geophysicist is a person who determines the potential location of oil, gas or other deposits thru the study of sound and pressure transmission, electromagnetic waves and gravitational action.

GIS. Geographic Information system. A method of storing and presenting map information.

GPS. Global Positioning System. A method of identifying the location of a specific object in relation to the surface of the Earth by the use of satellites. Normally located by Latitude and Longitude.

Hold Harmless Clause is a condition written into a Lease that protects one or more parties against claims or actions against other parties in the lease. The clause is normally used to prevent being sued by a third party seeking judgment(s) for injuries caused another partner in a business arrangement. Variations of this clause are sometimes used to protect royalty owners against liability for unforeseen costs or judgments incurred by working interest partners. Often called an Indemnity Clause.

Horizontal Drilling is a technique for drilling in multiple directions from a single site. Drilling is started vertically to a pre calculated depth, the drill is then guided or turned towards the horizontal. This is accomplished by various means, such as varying pressures through circulated liquids (i.e. drilling mud) upon the drill bit, even mechanical means. Drilling is then horizontal to the area or pool of gas or oil. Slant drilling was a precursor of Horizontal drilling in which the vertical drilling was simply tilted and then drilled as normal.

Hub. Called Market Center Hubs where several Gas pipelines converge and provide a place for Sale and Trade.

Hydrocarbons. A mixture of Hydrogen and Carbon atoms. Chiefly found in Petroleum and Coal.

In-Situ Well is used to ignite coal or other deposits underground and to capture the heat energy.

Injection well is a type of well. Injection wells are used to interject products such as water into a strata of rock for the purpose of fracturing or storage. A Recovery well gathers gas or oil from the strata from a fracturing process.

OIL AND GAS INFORMATION GLOSSARY

Landman is an individual that participates in the securing and / or negotiating of leases and purchases of Mineral or other mineable assets (e.g. Coal, Lignite, etc.). Landmen often represent Companies but not exclusively.

Lateral. Term used in Horizontal drilling in reference to the horizontal portion of the borehole. May be associated with lines drilled horizontally for test purposes. Multiple laterals may be called Stacked Laterals.

Lease Governance Clause. A feature in a lease that prohibits use of future documents such as a Division Order from altering the terms of the Lease agreement.

Lease Operating Expense (LOE) is an Operators expenses of drilling and maintaining a well. Expense deducted from working interest gross revenue of a well to determine net revenue.

Leasing is the “renting” of land or minerals for compensation. Leasing does not relinquish ownership. Minerals may be leased to Oil companies for the oil while land may be leased to cattlemen for grazing. A Lease is a written agreement reflecting the conditions of leasing.

Lessor / Lessee are the parties involved in a lease agreement. The Minerals owner is the Lessor, the party wanting access to all or part of the minerals is the Lessee.

Legal Description means the description of the property as shown on the Deed and recorded at the County Courthouse. It is *not* a street address. A property may be described in the deed by its boundaries such as 100 feet south, 300 feet west, etc. or by reference to a Plat (Map) recorded at the Courthouse. Plat descriptions are usually by Subdivision name, block and lot. For example, Lot 12 Block 38 of the Meadow Heights Addition to the City of Fort Worth as recorded in Plat Records A-455 Tarrant Co. Texas.

Legality Clause. A lease feature citing conflict with other existing Federal, State, and Local laws, rules, regulations and ordinances.

Liquid Petroleum Gas (LPG). Propane or Butane gas in a liquid state and under pressure.

Liquid Natural Gas (LNG). Methane gas under pressure and at low temperatures.

Log is a word for documentation, chart or record of an activity. Seismic Logs are used by Geophysicists to locate oil / Gas, Electric Logs are used by drillers to record information about drilling activity and borehole results. Written Logs are used by Drillers to record other activities such as spudding and fracing, dates, times, results etc.

Magnetometers. Device used to measure gravity. Used by Geophysicists.

MCF. Measurement of Gas, thousand cubic feet, M from the Latin number for one thousand.

Minerals. Minerals are a classification of matter (i.e. Animal, Vegetable, Mineral) and are considered by Mineralogists to be composed of non organic material that have a certain atomic structure and are consistent wherever they are found. Oil, Gas and Coal are not minerals even though the term ‘mineral’ is often used when referring to them.

Mineral Interests are the subdivision of Mineral rights usually expressed in fractions or percents. If an individual owns all the mineral rights under a particular piece of property he is said to own 8/ 8ths or 100%. If he sells or leases 75% of his rights to someone else he retains 25% or 1/ 4 interest.

Mineral Rights are the right of ownership to minerals (including oil and gas) under a particular property.

Mineral Restrictions Clause. A lease feature restricting production to specific minerals such as Gas only

Mud Pit. A surface pit lined with an impervious material in which drilling mud is dumped. The pit content is emptied into trucks and hauled to a Disposal Site. RRC rules require dewatering and compacting after Drilling.

Mud Pump. Equipment on a Drilling Rig used to circulate Drilling Mud. Circulates Drilling Mud to a Kelly on the Drill Stem and retrieves mud used in drilling and recirculates it or dumps it into a Mud Pit.

Mining Companies are companies that are primarily engaged in the discovery, mining (Underground and Open Pit), manufacture and marketing of mineral resources such as sulfur, copper, tin, gold and other non mineral assets such as Coal, Lignite, Sand, and Gravel.

Material Safety Data Sheet (MSDS) Documentation required by Federal Law on all chemicals and materials.

National Association of Royalty Owners (NARO). A private organization open to royalty owners. Based in Tulsa OK with Chapters in most oil and gas producing states. Texas Chapter is based in Dallas.

No (Non) Surface Use Clause is a condition where the Lessee has no intention of utilizing any of the surface of the property. Normally applies in Horizontal or Slant hole drilling when the drill hole is on another piece of property but the underground drill pipe runs under the Lessor’s property.

Notice of Assignment Clause. A feature of a lease that requires notice of reassignment of interests. May apply to Lessee and lessor.

Oil. See Petroleum

Oil, Gas and Mineral Leases are legal instruments of agreement between parties who own Oil, Gas or Minerals and those who wish to utilize them for Commercial purposes.

OIL AND GAS INFORMATION GLOSSARY

Oil and Gas Companies, sometimes called Energy Companies, that are engaged in the discovery, production, transportation, refining, marketing and sale of Oil and Gas resources. Some companies may only do some of these activities. For example, a Drilling or Operating Company may only do Drilling.

Oil Shale. A geological strata or layer of permeable shale rock containing oil and gas potential.

Operating Cost Clause. A lease feature used to primarily deal with transportation, treatment and lease maintenance costs being charged against Royalty Owners. Lessors usually want to prohibit them and Lessees want to avoid them.

ORRI is an abbreviation for Overriding Royalty Interest. This is a Royalty interest that is a percent of total revenue well revenue without costs.

Penetration Point. See Spud.

Permeable. Porous. Low density of rocks that allow gas or fluids through it easily. Opposite is impermeable.

Perforating. The process of making a hole in a well casing to allow access to oil or gas deposits. Usually accomplished by electrically firing an explosive charge in a well at a specified depth.

Petroleum. A natural occurrence of a decaying or decayed organic material containing hydrocarbons found in trapped geological reservoirs or within permeable rocks. May be a liquid (Crude Oil) or a gas. Gaseous Hydrocarbons can be in a reservoir with oil or present in Oil and are commonly called Natural Gas (Methane), but also covering other gas such as Butane and Propane. Oil and gas are also found in porous rocks called Oil Shale.

Petroleum Engineer is a person who studies the hydraulic and gaseous properties of Oil and Gas and designs appropriate facilities for their extraction, transportation and manufacture.

Play. Term used by Oilmen to described an area of high drilling activity. "The Barnett is in Play".

Pooling Agreement is where several parties agree to go together to form a single lease or unit of leases. There can be various other names used to describe this type of agreement; Community, Joint, Consolidated, Unitized, etc. For example, there are State Regulations requiring specified spacing between oil and gas wells. They involve specified amounts of acres per well. In urban drilling there are usually small pieces of property that fail to meet the minimum spacing or acreage requirements. In those cases the Leases are banded or pooled together to meet that requirement. In other agreements mineral owners want specific conditions to be met or they want to share in any possible benefits collectively as opposed to individually.

Property Appraisal is the evaluation of property to determine its Fair Market value for taxation.

Pugh Clause. Limits acreage in a pooling unit to acres allotted by Texas RRC to the Well. Without this clause a single well can hold the lease based on the wells commercial life. There are specifics concerning Vertical vs Horizontal. The above is horizontal, vertical pertains to depth or pay.

Recovery Well is used primarily in a recovery method of securing oil or gas from a formation by Hydraulic or Heat pressure, flooding or vacuum where production had previously ceased.

Reservoir. Subsurface rock deposit containing oil / gas within a Geological Formation.

Rig. A structure or derrick used in drilling and servicing oil wells.

Rights Buyer. An individual or company trying to buy mineral rights from its owner either before or after production. This is a purchase of the ownership, not a lease.

Rotary Rig. A Drilling rig that uses a pipe, bit and turning action to drill a well.

Rotary Table. Turntable. Part of a Rotary Rig used for turning a Drill Stem. Attaches to the Kelly. See Drill Stem.

Roughneck. Floorman on a drilling rig. Handles pipe setting and boring activities.

Roustabout. General labor on drilling crew.

Royalty Clause. A lease feature for Royalty owners with respect to any operating costs. Also referred to as a Gross vs. Net clause. May effect Royalty income. For example, A Royalty interest of 22% may be better than 25% if the latter contains transportation, treatment, and lease use costs.

Royalty Interest is a mineral interest upon which a lessor is paid from the sale of minerals. For example, If minerals are sold for \$100 profit a Lessor with a 25% interest would theoretically receive \$25.

Royalty Payment is the amount received by a royalty owner. Amounts are affected by many factors. If a lease is part of a Pooling Unit its share is acreage proportional. For example, if the pool has 640 acres and you own 64 acres you are entitled to 1 / 10 of the pool revenue adjusted for your royalty interest. The market value of the product affects the revenue (\$80 Blls vs \$40 Blls). Production and transportation may affect the revenue. Gas and Oil varies in quality which affects price. These product sell as commodities and are affected by spot and futures prices. Political unrest, natural disasters, etc. can effect prices. More importantly, the ability of the well to produce is a major factor. Some wells simply produce more than others. Usually a gas well produces it's best in the first five years and then tapers off and finally expires within 30 years.

OIL AND GAS INFORMATION GLOSSARY

Security Clause. A lease feature covering safety and security requirements during and after drilling. Usually not required due to Local, State and Federal regulations. May include access permission rights

Seismic is a term used by Geophysicists to describe a motion of energy distributed thru a solid or liquid.

Geophysicist use induced energy through thumping or explosive means to send shock waves thru the Earth. The velocity at which they travel can be recorded. The velocity gives an indication whether they are traveling through solids, semisolids, gas, or liquids. Seismic is often called simply 'Seis'.

Severance Tax. is a State tax assessed on the revenue of well production. Texas is 7.5% for gas, 4.6% for Oil.

Shut-in / Capped Well Clause. A lease feature that provides for special conditions such as minimal payments or lease termination when a well is shut-in or is abandoned (Capped). Capping of a well might not necessarily mean it is no longer physically productive, it may be uneconomical. The well may be reworked at a later date. Some of these condition are covered in what is referred to as a Pugh Clause.

Shut-in well is a condition where a well is capable of producing oil or gas but for various reasons the products cannot be extracted from the well. A number of reasons can cause this condition. A mechanical or equipment malfunction, pipe line disruption, safety problems or violations, state regulatory demands, litigation, etc. A Shut-in well is assumed to eventually be productive again.

Signing Bonus. See Bonus

Space, Distance Clause. A lease feature specifying distance and space requirements from property, structures, parks, rivers, streams, streets, water wells, utilities and other facilities. Usually covered by City and State regulations, but may be used to cover special situations where well location may endanger life or property or cause economic or environmental disaster in the event of a problem.

Spud. The start point of drilling a well. Also called a Penetration Point.

Surveyor is a person engaged in the measurement of objects and property upon the surface or subsurface of the Earth and preparation of maps.

Standard agreement is usually where a third party, attorney, nonprofit organization, etc. develops a common agreement form with mutually acceptable terms which individual parties use. There can be other terms to describe this type of agreement; Common, Typical, Prototype, etc. Unlike pooling agreements there is no revenue sharing.

Subordination Clause. Protection for a situation usually occurring when the property under consideration is mortgaged. Other conditions may apply such as liens for unpaid taxes, property disputes, pending litigation, or other charges. This situation occurs when parties other than the Landowner may make legal claim to the property via a lien. For example, a mortgage lender may consider the loan a lien against disposition, sale, or lease of any part or all of the property including the minerals. A Lessee may request a Subordination agreement from these parties to protect his investments from attachment in case of litigation, disputes or other causes. This process is sometimes confused with a Subrogation agreement because of the similarity of the words. Subrogation is where a party assumes a debt of another party from a creditor. Subrogation transfers the rights of the creditor with the assumption of the debt. Lessee may agree to defend a lien by assuming payment and subrogation rights.

Supersede Clause. A lease feature on lease addendum resolving conflict with the lease itself. Usually used to ensure the Addendum overrides the lease stipulation.

Surface Damage Clause. A lease feature covering the unexpected use, intrusion and damage to surface property. Usually contains specifics on compensation.

Surface Damage is a condition where a Lessee has caused damages by their activities to the surface of the property and / or structures on that property regardless of who owns the mineral interests.

Tank Battery. A group of steel tanks used for storing oil and gas or drilling waste. Large Battery is a Tank Farm.

Tarrant Appraisal District (TAD). A Texas State agency responsible for determining the fair market value of Real property and Minerals within Tarrant County.

Term is the period of time a Lease would be in effect, such as 3, 5, or 10 years. Sometimes called the Primary Term. Certain conditions are usually required to continue the lease. If the Working interest partners fail to perform to the requirements of the lease it may terminate at the end of the Term or the Lease may extend should production commence and continue until production ceases. Gas well production can be 30 years.

Tour is a working shift, usually a 10 to 12 hour day. Old timers mispronounce it "Tower" as in Evening Tower.

Texas Administrative Code are the set of rules and regulations by which State Agencies operate. These are maintained by the Secretary of State. Codes relating to Oil and Gas can be found in Title 16 Economic, Chapter 1 RRC, Chapter 3 Oil and Gas.

OIL AND GAS INFORMATION GLOSSARY

Texas Commission on Environmental Quality (TCEQ). Texas agency charged with overseeing environmental quality within the State.

Texas Department of Transportation (TXDOT). Texas agency responsible for design and construction of public highways and control of regulations for vehicular and railroad traffic.

Texas Municipal Code are part of the Texas Legislative Statutes. The Municipal Statute Code covering Oil and Gas properties can be found under Local Government Statutes, Title 8 Acquisition, Sale or Lease of Property, Chapter 253 Sale or Lease of Property by Municipalities.

Texas Railroad Commission (RRC). A State agency that is charged with regulating and monitoring the Oil and Gas Business in Texas. Also called TRC.

Texas State Comptroller is a State agency charged with managing State Revenues, budgets, taxes and other related activities.

Texas Water Development Board (TWDB). State agency responsible for planning, development and conservation of water resources.

Title is an expression that denotes ownership of a particular property and / or its minerals. A deed to a piece of property identifies the owner(s) who have Title to the property. Mineral owners may be different from property owners. When a sale of property is made the Seller may elect to reserve or keep some or all Mineral Rights. That reservation must appear in the deed at that time. However, subsequent deeds may or may not reflect that transaction. To determine if your minerals are owned by a previous party a title search must be performed. Each prior deed transfer is examined for retention of any or all minerals. This activity is called a Title Search and the series of transactions as a Chain of Title. In Texas, because of its methods of originally distributing land and its recognition of previous land grants from Spain and Mexico most property, particularly mortgaged property, is covered by Title insurance which may defend the owner from loss in the event of a flaw in the title process.

Toolpusher. Drilling Supervisor, in charge of Rig.

Top Lease Clause. A feature in a Lease that prohibits other offers for mineral interests until the expiration of the current Lease.

Traveling Block. Part of a Rotary Rig Drawworks that travels up and down. Attaches to the Kelly . Used in lifting and handling pipe and other tools into the wellbore.

Transfer Station. A location where Gas is transferred from one pipeline system to another. Transfers are measured thru metering and compensation is rendered.

Unitization Size Clause. A lease feature stipulating the size of a Unitization beyond State regulations to which the lease is attached. Normal units sizes in Texas are 40 acres for oil and 640 for gas and have a 10% tolerance.

Whipstocking. A technique used in drilling Directional wells and for drilling around a well bore that is obstructed with broken pipe or tools.

Working interest is the mineral interest held by the individuals doing the work and providing the resources to extract and sell the oil / gas. For example, If you enter into a lease agreement with a Oil or Gas Company for recovery of gas under your property you might agree to a 25% Royalty interest, they would receive a 75% working interest in the proceeds of the sale of the gas or oil.

Wellbore. Shaft or hole created by drilling. Also called Drill hole.

Well Perforation is a technique using explosive charges and other means to open wellbore to gain access to oil and gas deposits.

Workover. Reentry into a completed well for modifications or repair.