

## OIL AND GAS TERMS

**This glossary of common oil and gas terms and definitions will aid newcomers as well as experienced royalty owners or mineral owners with understanding terminology used in the Oil and Gas industry. In addition we have a page of [Oil and Gas Abbreviations and Acronyms](#). The are some of the most commonly used oil and gas terms. If you would like to discuss mineral rights related issues with other landowners visit**

**3-D Seismic, Three Dimensional Seismic** - Advanced method for collecting, processing, and interpreting seismic data in three dimensions. Three-dimensional seismic data is collected from closely spaced lines over an area of interest. The advantages of using three-dimensional seismic include increased resolution as well as improved interpretational tools and data displays.

**Abandoned Well** - A well no longer in use, whether dry, inoperable or no longer productive.

**Acre-Feet** - Unit of volume; one acre of producing formation one foot thick. One acre-foot equals 7,758 barrels, 325,829 gallons or 43,560 cubic feet.

**Ad Valorem Tax** - Latin for according to value. For producing minerals, this tax is levied at the county level.

**Aggregate Pay Laws** - The various state laws which state that oil and gas revenue distributors do not have to issue a check on a monthly basis unless the dollar amount owed reaches a minimum threshold. In most states, this is either \$25 or \$100. At minimum, a check must be issued each tax year, regardless of how small the amount owed.

**Allowable, Oil Allowable, Gas Allowable** - Amount of oil or gas which a well, leasehold or field may produce per month under proration orders of the Texas Railroad Commission (RRC).

**API Number** - A unique identifying number for all oil and gas wells drilled in the U.S.

**Assignment** - The legal instrument whereby Oil and Gas Leases, Royalty Interests, or Overriding Royalty interests are assigned or conveyed.

**Associated Reservoir** - Oil and gas reservoir with a gas cap. Gas production from these reservoirs is generally restricted in order to preserve the gas cap energy, thereby increasing ultimate recovery.

**Bank Draft** - An instrument guaranteeing payment to a party within a certain time window, so long as certain conditions are met.

**Basic Sediment and Water, BS&W** - Impurities and water contained in the raw fluid produced by an oil well.

**Barrel, Bbl** - In the oil and gas industry, a barrel is 42 U.S. gallons measured at 60° Fahrenheit.

**BCF** - The abbreviation for billion cubic feet of gas.

**Blowout Preventor, BP** - Casinghead equipment that prevents the uncontrolled flow of oil, gas and mud from the well by closing around the drill pipe or sealing the hole.

**BOPD** - The abbreviation for barrels of oil per day.

**Bottom Hole Pressure, BHP** - The abbreviation for bottom-hole pressure

**Brine** - Another word for salt water.

**British Thermal Unit, BTU** -- The amount of heat required to raise the temperature of one pound of water one degree Fahrenheit under standard conditions of pressure and temperature.

**BTU Factor** - a number which is multiplied by the volume of gas measured in MCF in order to arrive at the heating value of gas which is measured in millions of British Thermal Units (MMBTU).

**Casing** - Pipe cemented in the well to seal off formation fluids and to keep the hole from caving in.

**Casinghead Gas** - The gas that is produced along with the crude oil.

**Check Meter** - An additional meter installed at the well site in order to "check" the main meter.

**Christmas Tree, Wellhead** - The system of pipes, valves, gauges and related equipment located on the well at ground level which controls the flow of gas and other petroleum products produced from the well.

**CO2**- Abbreviation for carbon dioxide.

**Commodities**- Widely produced products which whose quality is indistinguishable regardless of where it comes from. Examples include agricultural products, energy products, metals, currencies etc.

**Commodity Prices** - Crude oil and natural gas are commodities, thus are priced on a commodity exchange, the New York Mercantile Exchange (NYMEX).

**Completion** - This is the process which takes place immediately after the drilling operation is complete. This involves the setting of casing, tubing, packers, possibly down hole pumps, possibly hydraulic fracturing, possibly installing sand screens etc.

**Compression** - Often natural gas from the wellhead must be compressed to a higher pressure in order to increase it's pressure enough in order to get it into pipelines for further transportation to market.

**Condensate, Lease Condensate** -

**Contiguous Tract** - A tract of land of which there is a continuous and unbroken perimeter.

**Cost Depletion** - One of the two calculation methodologies allowed by the IRS for calculating the depletion allowance on oil and gas royalty revenue. The other methodology is called percentage depletion

**Crude Oil** - Raw, liquid petroleum as it comes out of the ground as distinguished from refined oils manufactured from it.

**Cubic Foot of Gas, Standard Cubic Foot of Gas** - As a unit of volume, 1,728 cubic inches. As applied to water, 7.48 gallons. As applied to natural gas, the volume of gas which, when saturated with water vapor at 60°F and at a pressure of 30 inches of mercury occupies one cubic foot of volume.

**Curative** - The process that clears a title or straightens out any defects in the title chain.

**Decline Curve** - The graphic representation that shows how hydrocarbon production rate changes over time.

**Decline Rate** - The rate of change in oil and gas production for a particular well.

**Defects in Title** - Items which are or appear to be problematic with respect to having a clear title. Clear title would be a title with no questions or encumbrances as relating to ownership.

**Dehydration**- The process of removing water vapor from produced natural gas. This is done in order to bring the raw gas stream up to minimum quality standards for transporting in the pipeline network.

**Delay Rental** - Yearly payments made to Lessor during the primary term to compensate for delayed drilling.

**Depletion** - .

**Depletion Allowance** - The tax deduction allowed by the IRS for royalty and mineral owners to offset the decrease in value of a capital investment caused by the production (depletion) of minerals.

**Developmental Well** - A well drilled to a known producing formation in an existing oil field.

**Direct Participation** - Financial participation in the direct costs of drilling a specific well or wells; as differentiated from owning an interest in an oil company stock, or partnership.

**Discovery Well** - The first oil or gas well drilled in a new field. The discovery well is the well that is drilled to reveal the actual presence of a petroleum-bearing reservoir. Subsequent wells are called development wells.

**Division Order**- A schedule of owners and their decimal share in revenues from an oil or gas well.

**Dissolved Gas** - Commonly referred to as solution gas.

**Division Order** - A schedule of owners and their decimal ownership share in revenues of a well's production derived from the sale of oil or gas.

**Division Order Title Opinion** - An opinion, generally written by an attorney, stating the names and decimal ownership interests within a producing oil or gas well, unit, or lease.

**Drill Bit** - The item placed at the end of the drilling string used in drilling into the earth. Drill bits cut and chip small pieces of rock as the pipe rotates.

**Drill String** - The pipe, tools, and bit comprise a drill string

**Drilling Mud, Drilling Fluid** - Fluid used to lubricate the drill string, line, the walls of a well, flush cuttings to the surface and create enough hydrostatic weight to prevent blowouts.

**Drilling Rig** - The equipment used to bore into the earth. Rotary style drilling is what is primarily used in today's drilling

**Downstream** - This term is used in describing oil and gas operations occurring after the sales meter.

**Dry Gas** - Natural gas that does not have a significant amount of liquid hydrocarbons or water vapor.

**Dry Hole** - Any well that fails to discover oil or gas in paying quantities.

**D&A** - Dry and abandoned. Refers to oil and gas wells.

**Easement** - An easement is a created interest which allows useage for a stated purpose. In oil and gas, this is most commonly for installing and operating pipelines.

**Electric Log** - A subsurface recording that indicates a well's rock formation characteristics by illustrating its responses to electric current.

**Escheated** - In today's usage, this is the process whereby property to which there is no claimant is returned to the state, usually the state comptroller's office.

**Exploratory Well** - Any well drilled for the purpose of securing geological or geophysical information to be used in the exploration or development of oil, gas, geothermal, or other mineral resources.

**Exponential Decline** - A single decline rate that is used for the life of a well.

**Extraction Loss** - The reduction in volume and energy content of natural gas resulting from the removal of natural gas liquid constituents.

**Farmout** - Assignment or partial assignment of an oil and gas lease from one lessee to another lessee.

**Field** - Area of oil and gas production with at least one common reservoir for the entire area.

**Field Rules** - Spacing and production rules mandated by the state for a common reservoir in an area.

**Field Run Ticket** - A paper record completed by the purchasers or transporters representative documenting how much crude oil was removed from an oil well location.

**Field-Wide Unit** - The combining of all wells and ownership interests within an entire field for the purpose of maximizing the overall benefit to all parties.

**First Purchaser** - The party who first purchases and takes title to the production from an oil or gas well.

**First Right of Refusal** - A provision in leases stating that the operator has the right to top lease before any third party does. (This in effect is an option - the option to review and preempt a transaction by another party).

**Flush Production** - The phrase used to describe the initial "rush" of production that usually comes from a producing well after it is first completed and put on line. This flow rate is usually much higher than the rate which will be sustained.

**Force Pooled** - The act of being forced by state law into participation in an oil and/or gas producing unit.

**Formation** - A separate layer of rock or group of intermingled beds.

**Fracture, Fracing, Hydraulic Fracturing, Frac Job-** The process of using high pressure to pump sand laden gelled fluid into subsurface rock formations in order to improve flow into a well bore.

**Free Water Knockout** - A vessel used near a well location to separate produced brine from crude oil. These are used generally when there are high volumes of produced water.

**Fresh Water** - With respect to oil and gas production, fresh water which is found at shallower depths, is differentiated from salt water or brine which is usually found along with hydrocarbons.

**Fuel and Shrinkage** - The difference between the amounts of gas produced at the wellhead and the gas that enters a pipeline for sale. The losses include those from the separation process, field use, as well as fuel, flare gas and plant liquids extraction.

**Gas Lift** -The process of raising or lifting fluid from a well by means of gas injected down the well through tubing or tubing casing annulus. Injected gas aerates the fluid to make it less dense, forcing the fluid out of the well bore.

**Gas Oil Ratio, GOR** - Number of cubic feet of gas produced per barrel of oil.

**Gatherer** - Includes any pipeline, truck, motor vehicle, boat, barge, or person authorized to gather or accept oil, gas, or geothermal resources from lease production or lease storage.

**Gathering Line** - A pipeline, usually within an oilfield which gathers produced oil and/or gas to bring it to a more common point for further transmission.

**Geophone** - Acoustical sensor used in seismic exploration for collecting reflected waves.

**Grantee** - The person receiving lands, minerals, etc.

**Grantor** - A person who grants or conveys lands, minerals, etc.

**Gun Barrel Separator** - A vertical separator located near the wellhead which separates oil, water, and gas.

**Harmonic Decline** - Non-exponential with more pronounced or steeper decline rates. It incorporates the "slope" or bending of the decline to match a decline profile.

**Henry Hub** - Located in Erath, LA, the Henry Hub is a pipeline interchange and the delivery point for the New York Mercantile Exchange (NYMEX) natural gas futures contracts.

**Horizontal Drilling** - A well of which a portion is drilled horizontally to expose more of the formation surface area to the well bore.

**Hydrocarbon** - An organic chemical compound of hydrogen and carbon, called petroleum. The molecular structure of hydrocarbon compounds varies from the simplest, methane (CH<sub>4</sub>), a constituent of natural gas, to the very heavy and very complex. Octane, for example, a constituent of crude oil, is one of the heavier, more complex molecules.

**Hyperbolic Decline** - Non-exponential with subtle multiple decline rates. It incorporates the "slope" or bending of the decline to match a declined profile.

**Independent Producer** - An energy company, usually in the exploration and production segment of the industry - and generally, with no marketing, transportation or refining operations. Also known as a non-integrated producing company in the oil industry.

**Initial Production, IP** - The rate of initial flow from a well.

**Injection Well** - Well used to inject fluids (usually water) into a subsurface formation.

**Intangible Drilling Costs, IDC** - All costs incurred in drilling a well other than equipment or leasehold. These expenses are 100% tax deductible even if the well is productive.

**Interest** - A right or a claim to a property.

**Intestate Death** -

**Land Brokerage Company** - An organization which offers its services to oil and gas Operators for the purpose of obtaining leases. Often independent landmen work for a land brokerage company.

**Land Department** - This is generally the title given to the department within an oil company who is responsible for all issues related to acquiring and administering mineral and surface rights in order for the company to explore for and produce oil and gas.

**Landman, Petroleum Landman** - A person, male or female, whose role is that of contacting mineral rights owners regarding the leasing of their mineral interests for oil and gas production. Landmen often are independent contractors.

**Lease** - The generic name for an Oil, Gas and Mineral Lease (OGML).

**Lease Automatic Custody Transfer Unit, LACT Unit** - A system providing for the automatic measurement, sampling, and transfer of oil from the lease location into a pipeline.

**Lease Bonus**- Usually the cash consideration that is paid by the lessee for the execution of an oil and gas lease by a landowner. It is usually based on a per acre payment.

**Lessee** - The purchaser (taker) of an Oil, Gas and Mineral Lease.

**Lessor** - The party who grants an Oil, Gas and Mineral Lease.

**Mcf** - One thousand cubic feet of natural gas measured at standard pressure and temperature conditions.

**Mineral Lease** - An instrument which sets out the terms by which one party leases the right to explore and produce (if found) certain minerals within a specific tract or tracts of land. In the oil and gas industry, this is sometimes referred to as an Oil, Gas, and Mineral Lease (OGML)

**Mineral Owner** - Owner of the rights and interests in a mineral estate (where interests in a landed estate have been severed) along with the right to execute a lease on the same.

**Mineral Rights** - The ownership of the minerals on or under the surface, with the owner having the right to capture or recover and the right to delegate owner rights to another party to recover mineral by negotiating a lease agreement.

**Mineral Title** -

**Mineral Title Opinion** - A written record of the mineral ownership on or beneath a specified tract of land.

**MMBtu** - One million British thermal units; a measurement of heating value.

**MMcf** - One million cubic feet; a measurement of gas volume only.

**Natural Gas** or **Gas** - A naturally occurring mixture of hydrocarbon and non-hydrocarbon gases in porous formations beneath the earth's surface, often in association with petroleum. The principal constituent is methane.

**Natural Gas Liquids, NGL** - Gas that is processed through a plant to separate the heavier hydrocarbon liquids from the natural gas stream. These heavier hydrocarbon liquids, NGLs, traditionally have a higher value than the gaseous natural stream.

**Net Revenue Interest, NRI** - An owner's interest in the revenues of a well.

**Non-Participating Royalty** - A royalty interest which "participates" in any oil or gas found but does not "participate" in lease bonuses or rentals.

**Non-Producing Mineral Owner** - An owner of minerals that are not currently being produced and sold.

**Oil, Gas, and Mineral Lease, OGML** - The agreement outlining the basic terms of developing lands or minerals such as royalty to be paid, length of time, description of lands.

**Oil Gravity** - a measure of an oil's density. Gravity is a widely used indicator of a crude oil's worth. The less dense oils are of greater value.

**Oil Well** - Any well that produces one barrel or more crude petroleum oil to each 100,000 cubic feet of natural gas.

**Operating Expense** - The costs of operating a well.

**Operator** - A company or individual, acting for himself or as an agent for others who has primary responsibility for maintaining well operations and complying with state rules and regulations.

**Overriding Royalty, ORRI** - A royalty in excess of the royalty provided in the Oil Lease usually added on during an intervening Assignment.

**P&A**- Plugging and abandoning a well. After a well's productive life, it is usually plugged and abandoned with cement and heavy mud. The wellhead is removed, and the casing cut off 3-6 feet underground, and a steel plate welded over the top.

**Paid Up Lease** - An Oil and Gas Lease where rental payments are paid along with bonus.

**Participating Royalty** - A royalty interest giving its owner the right to "participate" in bonuses received and in any oil or gas found.

**Percentage Depletion** - One of the two calculation methodologies allowed by the IRS for calculating the depletion allowance on oil and gas mineral and royalty production. Generally, this allowance is calculated by multiplying 15% times the gross value of the annual production.

**Perforations** - Holes within and through casing and cement into the productive formation.

**Permeability** - Ability of rock to transmit fluids through pore spaces.

**Play** - A set of oil or gas accumulations sharing similar geologic, geographic properties, such as source rock, hydrocarbon type, and migration pathways.

**Pooled Unit** - Unit created by combining separate mineral interests under the pooling clause of a lease or agreement.

**Porosity** - Percentage of the rock volume that can be occupied by oil, gas or water.

**Pounds Per Square Inch, PSI** - An English system of measure of the amount of pressure on an area that is 1 inch square.

**Primary Term** - The initial period provided in an oil and gas lease to develop the property.

**Producing Mineral Interests** - A mineral interest upon which production is actively taking place and minerals being removed and marketed.

**Processing Plant** - A plant to remove liquefiable hydrocarbon.

**Producer** - A producer of oil and gas, also sometimes referred to as an Operator, or the Oil Company

**Producing Mineral Owner** - An owner of minerals that are currently being produced and sold. Payments made to producing mineral owners are known as royalty payments or royalties.

**Proration Unit** - Acreage allocated to a well for the purpose of determining an allowable.

**Proven Reserves** - Oil or gas which has not yet been produced but has been located and is economically recoverable.

**Pugh Clause** - A clause often added to an oil lease to limit holding non producing lands or depths beyond primary term of a lease. Also known as a Freestone rider.

**Pumper, Lease Operator, Gauger** - An employee of an Operator who is responsible for maintaining and reporting the daily production.

**Qualified Intermediary** - An advisor that prepares documents and ensures proper handling of funds relating to the 1031 exchange process.

**Ratification** - The act of confirming. Ratification of an oil and gas lease means to confirm it's existence and terms.

**Regulatory Agency** - The body within each state which administers oil and gas policy set by state government. These bodies serve as the repository for public data related to oil and gas operations within the state.

**Reserve Pit, Mud Pit** - Pit used to collect spent drilling fluids, cutting and wash water during drilling operations.

**Reservoir** - A porous, permeable sedimentary rock containing oil and gas.

**Residue Gas** - Gas remaining after processing and extraction of NGL.

**Revenue Statement** - The monthly statement sent by either the First Purchaser or the Operator to the interest holders within an oil or gas producing property. These statements detail production volumes and pricing for hydrocarbons that are produced and sold each month.

**Royalty** - Revenue generally received by a mineral owner from the production of oil or gas, free of costs (except taxes).

**Royalty Interest** - Mineral interests in lease acreage that do not participate in the cost of lease operations.

**Royalty Percentage** -

**Salt Water Disposal Well, SWD** - Well used for the purpose of injecting produced water back into the ground.

**Secondary Recovery** - Enhanced recovery of oil or gas from a reservoir beyond the oil or gas that can be recovered by normal flowing and pumping operations. Secondary recovery techniques involve maintaining or enhancing reservoir pressure by injecting water, gas, CO<sub>2</sub> or other substances into the formation.

**Sedimentary Rock** - Rock made up of aggregated sediments.

**Separator** - Apparatus that separates oil, gases, and water contained in the effluent from a production well.

**Severance** - The separation of a mineral or royalty interest from other interests in that land.

**Severance Tax** - A state tax levied against both royalty and working interest owners upon their pro rata share of oil and gas production. Each state sets its own severance tax rates, and often have special provisions for low rate wells, secondary recovery wells, etc.

**Severed Minerals** - Minerals whose title has been severed from the surface title.

**Shut In Royalty** - Payment to royalty owners under the terms of a lease which allows the lessee to defer production from a well capable of producing but shut in for lack of a market.

**Sour Gas, H<sub>2</sub>S** - Any natural gas containing more than 1-1/2 grains of hydrogen sulfide per 100 cubic feet or more than 30 grains of total sulfur per 100 cubic feet.

**Spot Market** - Short term, non-regulated, arms length contract sales of natural gas or crude oil.

**Stripper Well** - A mature well which is at or toward the end of its economic life.

**Structural Trap** - An underground fold or break (or both) which creates an impervious trap where oil and gas can accumulate. Oil will migrate underground through rock until it is "trapped".

**Substandard Acreage** - Amount of acreage that is less than the standard amount for a proration unit for a field.

**Surface Casing** - Outer casing cemented in the upper portion of the well bore to protect fresh water formations from contamination.

**Surface Estate** - Rights and interests in the surface of land as opposed to the mineral estate.

**Surface Owner** - Owner of the rights and interests in a surface estate.

**Surface Rights** - The set of rights associated with the surface of the land only, as differentiated from mineral rights.

**Swab, Swabbing** - The process of mechanically pulling (or lifting) liquids from a well bore.

**Sweet Gas** - Natural gas not containing hydrogen sulfide.

**Tank Battery** - Tanks for oil storage before delivery to a refinery.

**Testing** - When a new well is completed, a series of tests are usually performed. Tests are used to estimate daily deliverability, pressures, and reserves.

**Three Phase Separator** - A separator located near the wellhead which separates oil, water, and gas.

**Title Abstract** - a chronological history of the ownership or significant events effecting a particular piece of property.

**Top Lease** - An oil and gas lease which becomes effective only after the expiration (or termination) of an existing lease upon the subject land tract.

**Transporter** - Common carrier by pipeline, railway, truck, motor vehicle, boat, or barge.

**Tubing**- The smallest diameter pipe within a well bore which transmits the hydrocarbon production to the surface. Tubing is located inside the casing.

**Underproduction** - Production that is less than the allowable assigned to a proration unit.

**Unitization, Unitization Agreement, Unit Agreement** - Joint operations to maximize recovery among separate operators within a common reservoir.

**Upstream** - Refers to the searching for and the recovery and production of crude oil and natural gas. Commonly referred to as the exploration and production (E&P) sector.

**Viscosity** - The resistance of fluid to flow. A high viscosity fluid does not flow as easily as a low viscosity fluid.

**W-9-**.

**Waterflood, Waterflooding** - A form of secondary recovery, the process of injecting water into injection wells causing oil to migrate to adjacent producing wells.

**Well Site**- The physical location on which an oil or gas well is drilled. The size of the well site generally ranges from about ½ to 2 acres, depending on the foot print of the production facilities needed.

**Wildcat** - A well drilled in an unproven area for the purpose of discovering a new field or reservoir.

**Working Interest, WI** - Interest(s) in a well which bears the drilling and operating expenses.

**Zone** - Interval of subsurface formation.