Glossary

Oil and Gas at Your Door?

A Landowner's Guide to Oil and Gas Development
Second Edition

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Glossary of Oil and Gas Terms

A

abandoned well
A well no longer in use, whether dry or no longer productive, and the previous operator has intentionally relinquished its interest in the well.

abstract (of title)
A chronological history of the ownership or events affecting a particular piece of property; prepared by an abstract or title company.

acidizing
A procedure in which acid (often hydrochloric acid) is pumped into a reservoir to dissolve calcite in order to increase oil or gas production.

air emissions
Waste gases, vapors and small particles released into air.

anniversary date (of lease)
The date, usually one year from the effective date of a lease, by which rentals must be paid to maintain the lease in effect in the absence of drilling or production.

aromatics
Hydrocarbons that are characterized by unsaturated ring structures of carbon atoms. Commercial petroleum aromatics are benzene, toluene, and xylene.

associated gas
Natural gas that overlies or contacts oil in a reservoir.

B

basin
A large natural depression on the earth's surface in which sediments, typically waterborne, accumulate.

battery
Storage facility receiving production from a well or wells. Includes equipment for separating the fluid into oil, gas and water for measurement, as well as containers for holding the separated fluids, e.g., tanks.

Bcf
The abbreviation for billion cubic feet of gas.

beam pumping unit
A machine designed specifically for sucker rod pumping. An engine or motor (prime mover) is mounted on the unit to power a rotating crank. The crank moves a horizontal member (walking beam) up and down to produce reciprocating motion. This reciprocating motion operates the pump.

benzene
An aromatic hydrocarbon present to a minor degree in most crude oils. Used in manufacturing detergents, synthetic fibers, and petrochemicals, as a solvent, and as a component of high-octane gasoline. Is a known carcinogen.

bit
The cutting or boring element used in drilling oil and gas wells.

BLM
Abbreviation for the Bureau of Land Management, a federal department.

blowout
An uncontrolled flow of gas, oil, or other well fluids or materials from a well.

blowout preventer
One or more valves installed at the wellhead to prevent the escape of pressure and substances during drilling or completion operations.

bond
A financial guarantee supplied by the oil or gas company to ensure the reclamation of the lands disturbed by oil and gas development. If required reclamation is not completed, the state or federal agencies or surface owner can use the money supplied by the bond to complete the necessary work.

bonus
The cash amount paid by a lessee (e.g., an oil or gas company) to the owner of the leasing rights, usually upon execution of an oil and gas lease. May take other forms than cash. Some lessors, for tax reasons, may request partial payment over a number of years.

borehole
The hole created in the earth when a well is drilled or bored.

brine
Water that has a quantity of salt, especially sodium chloride, dissolved in it; salt water.

C

carbon dioxide
A colorless, odorless, gaseous compound of carbon and oxygen; it is a product of incomplete combustion.

carcinogenic
Causes cancer.

casing
Steel pipe that is placed in the borehole and cemented in to prevent the hole from collapsing; and to prevent movement of drilling fluids from the borehole into the formation, or fluids from one formation to another. Casing operations occur periodically throughout the drilling process starting with the surface casing and ending with production string which takes place during well completion.

cementing
The application of a liquid slurry of cement and water to various points inside or outside the casing in order to support the casing and prevent fluid migration between permeable zones.

chain of title
Recorded transfers (links) in title of property from patent to present.

christmas tree
The system of control valves, pressure gauges and related equipment that is located on top of The well at ground level to controls the flow of oil and/or produced from the well. It is used when reservoir pressure is sufficient to cause reservoir fluids to rise to the surface.

complete a well
To finish work on a well and bring it to productive status.

compressor
A device that raises the pressure of a compressible substance such as vapor or gas, and creates a pressure differential to move the vapor or gas.

compulsory pooling
Also known as forced pooling, it is the right, granted by a state regulatory body, for a company to include adjacent tracts in its drilling unit, even if the company owning the lease on that tract does not want to be included or the individual mineral owner of the tract does not want to lease. Certain payments are due the mineral owners of compulsory pooled tracts.

condensate
The liquid resulting when a vapor is subjected to cooling or application of pressure. Also, liquid hydrocarbons condensed from gas and oil wells.

covenant
A promise to do something. Under a lease there are two types of covenants: (a) stipulated, i.e., set out in the lease, (b) implied, i.e., interpreted by and the courts to be present in the lease whether written out or not. Implied covenants may include fully developing the property, diligence in marketing of the production, etc.

crude oil
Unrefined liquid petroleum.

cuttings
The fragments of rock cut from the formation by the drill bit and brought to the surface in the drilling mud. Used by geologists to obtain information about the formations.

D

damages
Compensation paid by an operator to the surface owner for actual and potential damage to the surface and crops in the drilling and operation of a well.

deed
A written document transferring ownership of a piece of property. A mineral deed conveys only an interest in the minerals.

dehydration
The process of removing moisture.

delay rentals
The payment made to the lessor (e.g., oil or gas company) for the privilege of continuing the lease without drilling on it. This payment is usually made annually if drilling does not take place.

development well
A well drilled within the proved area of an oil or gas reservoir to the depth of a geological formation known to be productive.

directional drilling
Drilling at an angle from the vertical. Controlled directional drilling makes it possible to reach subsurface areas laterally distant from the point where the drill bit enters the earth.

disposal well
Well used for disposal of produced water into an underground formation.

downhole
Pertaining to the wellbore, as opposed to activities and equipment associated with the surface.

drill bit
The cutting or boring element used in drilling oil and gas wells. The bit consists of the cutting elements and the circulating element. The circulating element allows the passage of drilling fluid and uses the hydraulic force of the fluid to improve drilling rates.

drill cutting analysis
Also known as drill core analysis, it is the analysis of cuttings or core samples to determine characteristics such as porosity, permeability and probable productivity of the formation.

drilling fluid
Specially formulated liquid circulated through the wellbore during rotary drilling operations. Used to bring cuttings from the wellbore to the surface; to lubricate and cool the drill bit, string, line, and walls of the well; and provides weight to counteract downhole formation pressure. Also known as drilling mud.

drilling mud
See drilling fluid.

drilling unit
The maximum area from which one well can efficiently and effectively extract the oil or gas. Drilling unit size is determined by a state agency.

drilling window
The section of a drilling unit where drilling must take place.

dry gas
Natural gas that does not have a significant content of liquid hydrocarbons or water vapor.

dry hole
A drilled well that does not produce oil or gas in commercial quantities.

E

easement
A temporary right given to a non-owner of the land for a specific purpose; i.e., an easement to lay a pipeline from a well, cross the land with a road, etc.

EPA
Abbreviation for the Environmental Protection Agency, a federal department.

egress
The act of getting out or leaving.

estates in land
The various types of land ownership, e.g., fee simple or split estate.

enhancement (of production)
The use of various processes to increase the displacement of oil from the reservoir, e.g., gas injection, flooding and waterflooding. Also known as secondary recovery.

exploration phase
The phase of operations that covers the search for oil or gas by carrying out detailed geological and geophysical surveys, and, if appropriate, exploratory drilling.

exploratory well
A well that is drilled for the purpose of securing geological or geophysical information to determine the viability of developing oil, gas, geothermal, or other mineral resources. It includes what is commonly referred to in the industry as "slim hole tests," "core hole tests," or "seismic holes".

erosion
The process by which materials, such as rock or soil, are worn away or removed (as by wind or water).

F

fee simple estate
This form of estate is not qualified by any other interest and, upon the owner's death, passes unconditionally to the heirs.

field
An area of oil and gas production with at least one common reservoir for the entire area. There may be two or more reservoirs in a field that are separated vertically by intervening impermeable geologic layers, or laterally by local geologic barriers, or by both.

flaring
burning of hydrocarbon gases for commercial or technical reasons.

flooding
Forcing oil from a reservoir into a well by injecting water or chemicals under pressure into the reservoir formation. See waterflooding.

flow line
The surface pipe through which oil or gas travels from a well to processing equipment or to storage.

flowing well
A well that produces oil or gas by its own reservoir pressure rather than by use of artificial means such as pumps.

forced pooling
See compulsory pooling.

formation
A layer of rock with distinct features such as texture or mineral composition. The thickness of a geological formation can range from a few feet to several hundred feet.

formation fluid
A fluid, such as gas, oil, or water, that exists in a subsurface or geological formation.

fracing fluid
A fluid such as water, oil or acid, used in the hydraulic fracturing process. Under extremely high hydraulic pressure these fluids are pumped downward through production tubing. The pressure causes cracks to open in the formation, and the fluid penetrates the formation through the cracks. The fluid also carries substances called proppants that hold open the formation cracks after hydraulic pressure dissipates. Also known as frac, fracturing or hydraulic fracturing fluid.

fracturing
A method of stimulating oil or gas production by opening new flow channels in the formation surrounding a production well. It involves pumping of crude oil, diesel, water, or chemical into a reservoir with such force that the reservoir rock is broken and results in greater flow of oil or gas from the reservoir. Also known as hydraulic fracturing or fracing.

G

gas well
A well that primarily produces gas. Legal definitions vary among the states.

gas field
A field containing natural gas but no oil.

gas injection
A secondary recovery method whereby dry natural gas or carbon dioxide is injected into an oil reservoir to increase pressure around the injection well and thus increase flow and oil production from nearby wells.

gas processing
Separation of oil and gas, and removal of impurities and from natural gas.

gathering line
A pipeline that transports oil or gas from a central point of production to a gas transmission line or mainline.

gel
A semisolid, jellylike substance.

geologist
A scientist who gathers and interprets data pertaining to the formations of the earth's crust.

grant
To give title or ownership by deed or other instrument to another.

greenhouse gases
Gases (e.g., water vapor, carbon dioxide, methane, nitrous oxide, CFCs, and ozone) that alter thermal properties of atmosphere.

H

heavy oil
Hydrocarbons composed of long chains of hydrogen and carbon atoms

horizontal drilling
A drilling technique where a well is drilled vertically to a certain depth and then drilled at a right angle so that the borehole penetrates a productive formation in a manner parallel to the formation.

hydraulic fracturing
An operation in which a specially blended liquid is pumped down a well and into a formation under pressure high enough to cause the formation to crack open, forming passages through which oil or gas can flow into the wellbore. See also fracturing.

hydrocarbons
Organic compounds composed of hydrogen and carbon. Their densities, boiling points, and freezing points increase as their molecular weights increase. The smallest molecules of hydrocarbons are gaseous; the largest are solids. Petroleum is a mixture of many different hydrocarbons.

hydrogen sulfide
Chemical formula H2S, also known as sour gas. It is a flammable, colorless gas that is often associated with oil and gas development. Hydrogen sulfide is toxic and smells like rotten eggs at low concentrations. It is heavier than air, and may accumulate in low-lying areas.

I

impermeable
preventing the passage of fluid. A formation may be porous yet impermeable if there is an absence of connecting passages between the voids within it.

independent producer
An energy company, usually in the exploration and production segment of the industry and generally, with no marketing, transportation or refining operations. A non-integrated producing company in the oil industry.

ingress
The act of entering.

injection water
Water that is introduced into a reservoir to help drive hydrocarbons to a producing well. May also refer to produced water that is introduced into a formation other than the one from which it was extracted.

injection well
A well through which fluids are injected into an subsurface formation to increase reservoir pressure and to displace oil (e.g., during oil enhancement or waterflooding operations). Also called an input well.

L

landman
An employee of an oil and gas company or an agent for the company who negotiates oil and gas leases with mineral owners, cures title defects, and negotiates with other companies on agreements concerning the lease. Landmen may become certified by passing an exam given by the American Association of Professional Landmen.

lease
A legal instrument that could be a contract, profit-share agreement, joint venture or other agreement between a mineral owner (lessor) and another party (lessee) that grants exclusive right to the lessee to explore for, drill, produce and remove oil or gas from a piece of land.

legal description
An adequate description of land which enables a surveyor to locate a tract of land. Two systems of land surveys exist in the United States: (1) the metes and bounds system describes the boundaries of parcel of land; and (2) the rectangular survey system describes land parcels using equal-sized townships, sections and fractions thereof. A legal description is essential in deeds, land contracts, mortgages, wills and leases.

lessee
The person or party who receives the lease, sometimes called the tenant.

lessor
The person or party giving the lease, sometimes called grantor or landlord.

liquified natural gas (LNG)
Natural gas that is cooled to about -260°F at normal pressure, resulting in the condensation of the gas into liquid form. LNG takes up about 1/600th of the volume of gaseous natural gas, which decreases the cost of transporting the natural gas. But LNG is costly to produce, and thus, only accounts for 1 % of the natural gas used in the United States.

log
A systematic recording of data, such as a driller's log, mud log, electrical well log, or radioactivity log. Many different logs are run down wells to discern various characteristics of downhole formation.

M

Mcf
Abbreviation for one thousand cubic feet.

MMcf
Abbreviation for one million cubic feet.

methane
A gaseous hydrocarbon (at normal temperature and pressure) consisting of one carbon atom and four hydrogen atoms. Chemical formula CH4.

mineral
A naturally occurring homogeneous substance that is obtained from the ground for human use (e.g., stone, coal, salt, sulfur, sand, petroleum, water, natural gas).

mineral estate
The ownership of minerals lying below the surface of land, and considered to be "real property." The mineral ownership may or may not be tied to surface ownership.If the surface ownership and the mineral ownership are different, the minerals are said to be "severed."

monitoring
The periodic observation and orderly collection of data to evaluate the effects of oil and gas development.

mud
The liquid circulated through the wellbore during rotary drilling and workover operations. Also known as drilling fluid.

mud pit
Originally, an open pit dug in the ground to hold drilling fluid or waste materials discarded after the treatment of drilling mud. For some drilling operations, mud pits are used for suction to the mud pumps, settling of mud sediments, and storage of reserve mud. Steel tanks are much more commonly used for these purposes now, but they are still usually referred to as pits.

mud tank
A series of open tanks, usually made of steel, through which the drilling mud is cycled to allow sand and sediments to settle out.

N

natural gas
A highly compressible, highly expansible mixture of hydrocarbon and small quantities of non-hydrocarbons, with a low specific gravity, and occurring naturally in a gaseous form. Found in porous formations beneath the earth's surface, often in association with petroleum. The principal constituent is methane.

natural gas processing plant
A facility designed to recover natural gas liquids from the stream of natural gas which may or may not have been processed through field facilities; and to control the quality of the natural gas to be marketed.

Natural Gas Liquids (NGL)
Hydrocarbon liquids extracted from natural gas.

NO_X
Nitrogen oxides, which are gases containing nitrogen and varying number of oxygen atoms. Some sources of these gases include motor vehicle exhaust, burning of diesel fuel, coal, and flaring of methane. The brown haze sometimes seen over cities is mainly nitrogen oxides. These gases are also partly responsible for the generation of ozone. Exposure to high levels of nitrogen dioxide can interfere with the ability of blood to carry oxygen, leading to dizziness and shortness of breath. Prolonged exposure can lead to respiratory failure.

O

oil
A simple or complex liquid mixture of hydrocarbons that can be refined to yield gasoline, kerosene, diesel fuel, and various other products.

oil field
The surface area overlying an oil reservoir or reservoirs. The term usually includes not only the surface area, but also the reservoir, the wells, and the production equipment.

open hole
Any well in which casing has not been set, or an open or cased hole in which no drill pipe or tubing is suspended.

open-hole completion
A method of preparing a well for production whereby no production casing or liner is installed opposite the producing formation. Reservoir fluids flow unrestricted into the open wellbore.

operator
A person or company that operates a well or lease. Generally, the oil or gas company that engages the drilling, service, and workover contractors.

offshore drilling
Techniques used in the search for petroleum deposits beneath the oceans. The drilling is conducted from large, fixed platforms of special design that can withstand all but the most violent of storms.

onshore drilling
Techniques used in the search for oil and gas deposits beneath the surface of the land.

ozone
A gas containing three oxygen atoms in each molecule, chemical formula O_3. Ozone forms in atmosphere when nitrogen oxides and organic gases emitted by automobiles and industrial sources are exposed to sunlight.

P

PAH
Abbreviation for polynuclear aromatic hydrocarbon; also called polycyclic aromatic hydrocarbons. PAHs are hydrocarbon compounds with multiple benzene rings. Typically, they are components of asphalts, crude oil, coal, coal tar pitch, fuels, and greases. Also, PAHs are formed during the incomplete burning of coal, oil, and gas. Studies of people show that individuals exposed by breathing or skin contact for long periods to mixtures that contain PAHs and other compounds can also develop cancer. EPA has determined that the PAHs benz[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[k]fluoranthene, chrysene, dibenz[a,h]anthracene, and indeno[1,2,3-c,d]pyrene are probable human carcinogens.

paraffin
A saturated aliphatic hydrocarbon having the formula CnH_2n+2 (for example, methane, CH_4; ethane, C_2H_6). Heavier paraffin hydrocarbons (for example, $C_{18}H_{38}$) form a waxlike substance that is called paraffin. These heavier paraffins often accumulate on the walls of tubing and other production equipment, restricting or stopping the flow of the desirable lighter paraffins.

perforation
A hole made in the wellbore casing, cement, and into the formation, thus allowing oil or gas to flow into the wellbore.

permeability
Ability of rock to transmit fluids through pore spaces.

petroleum
A substance occurring naturally in the earth in solid, liquid, or gaseous state and composed mainly of mixtures of chemical compounds of carbon and hydrogen. Petroleum may contain nonmetallic elements such as sulfur, oxygen, and nitrogen. In some cases, petroleum refers only to oil. When used more generally, however, it is the name for hydrocarbons, including crude oil and natural gas and their projects.

pit
Hole dug out in the ground surface for temporary storage of fluids during drilling operations.

plug
Any object or device that blocks a hole or passageway, such as a cement plug in a borehole, which seals off formations to stop open communication of formation fluids within a well.

particulate matter
A collective name for fine solid or liquid particles added to the atmosphere. Particulate matter includes dust, smoke, soot, pollen and soil particles.

pollution
Contamination of surface or subsurface air, waters or land.

pooling
Pooling is the combining of small or irregular tracts into a unit large enough to meet state spacing regulations for drilling permits. Not to be confused with unitization (below). See also compulsory and voluntary pooling.

porosity
The percentage of rock volume that can be occupied by oil, gas or water.

primary recovery
Also known as primary production. Primary recovery is the first stage of hydrocarbon production, and natural reservoir pressure is often used to recover oil. When natural pressure is not sufficiently capable of forcing oil to the surface, artificial lift equipment, e.g., a pump, is used. Primary production accounts for less than 25 % of the original oil in place. To recover a portion of the remaining oil, secondary recovery methods are used.

primary term
The period of time during which a lease may be kept alive by a lessee (even though there is no production in paying quantities) by virtue of drilling operations on the leased lands or the timely payment of rentals.

processing plant
A plant where liquefiable hydrocarbons are removed.

producer
Any party owning, controlling, managing, or leasing any gas well and/or any party who produces in any manner natural gas by taking it from the earth or waters.

produced water
Liquids produced during the drilling and production operations. Produced water usually is composed of groundwater and by-products of the drilling operations, e.g., mud, drilling lubricants, and oil. The volume of coalbed methane produced water is orders of magnitude greater than water associated with conventional oil and gas production.

production
The phase of the petroleum industry that deals with bringing the well fluids to the surface and separating them and storing, gauging, and otherwise preparing the product for delivery. Also, may refer to the amount of oil or gas produced in a given period.

proppants
Sand grains, aluminum pellets, walnut shells, or similar materials that are carried by fracing fluid during hydraulic fracturing. When the pressure is released at the surface, the fracturing fluid returns to the well but leaves behind the propping agents to hold open the formation cracks.

proved reserves
The estimated quantities of oil or natural gas that geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions.

pump
A device that increases the pressure on a fluid or raises it to a higher level. Various types of pumps include the bottom hole pump, centrifugal pump, hydraulic pump, jet pump, mud pump, reciprocating pump, rotary pump, sucker rod pump, and submersible pump.

pump jack
A surface unit similar to a pumping unit but having no individual power plant. Usually, several pump jacks are operated by pull rods or cables from one central power source.

R

reclamation
The restoration of lands disturbed by oil and gas activity to some specified end, e.g., productive use. Activities usually include recontouring and reseeding the land.

record title
The ownership of an interest which is determinable from the county records in which the property is located. Record title may be different than actual ownership where there are assignments or letter agreements unrecorded. Under federal leases, the official chain of title is kept by the government. Each time lease ownership changes, the changes must be made with the government and an instrument also filed in the county records to update both.

recording
The act of placing an instrument in the county or parish records. The recording is required to put all concerned of notice that a transaction has occurred. If a document is not recorded, it may be invalid and voided.

regulation
A rule or order, which is issued by an agency of the executive branch of government, that has the force of law. Regulations must be authorized by a statute and generally provide more details on a particular subject than does the authorizing statute.

refinery
An industrial operation that manufactures finished petroleum products from crude oil, unfinished oils, natural gas liquids, other hydrocarbons, and oxygenates.

reinjection
The introduction of produced water into the same formation from which it was extracted, as opposed to injection, which is the introduction of produced water into a different formation.

reservation
Action by the federal government reclassifying a tract of land to a specified purpose, e.g., wildlife preservation; or action to hold back or reserve a portion of rights, e.g., a mineral owner (or "grantor") may reserve a royalty interest in the minerals. For example, an oil company may receive"...all the right, title and interest in the above described property, save and except 1/16 royalty interest herein reserved to Grantor...".

reserve pit
It is usually an excavated, earthen-walled pit. It may be lined with plastic or other materials to prevent soil contamination. It may be used to store water, drilling fluid, or drill cuttings and wash water during drilling operations, or as a waste pit for spent drilling fluid. If used to store drilling fluids, additives are mixed with the mud in the pit, and the fluid is temporarily stored there before being pumped back into the well.

reserve tank
A special mud tank that holds mud that is not being actively circulated. A reserve tank usually contains a different type of mud from that which the pump is currently circulating. For example, it may store heavy mud for emergency well-control operations.

reserves
The unproduced but recoverable oil or gas in a formation.

reservoir
The underground formation where oil and gas have accumulated. It consists of porous, permeable or fractured rock, which holds the oil or gas, and a cap rock that prevents its escape. Most reservoir rocks are limestones, dolomites, sandstones, or a combination of these.

rig
The derrick or mast, drawworks, and associated surface equipment of a drilling or workover unit.

rotary drilling
A drilling method in which a hole is drilled by a rotating bit to which a downward force is applied. The bit is fastened to and rotated by the drill stem, which also provides a passageway through which the drilling fluid is circulated. Additional joints of drill pipe are added as drilling progresses.

rotary rig
A machine, used for drilling wells, that employs a rotating tube attached to a bit for boring holes through rock.

royalty
An interest in an oil and gas lease that gives the owner of the interest the right to receive a portion of the production from the leased acreage (or a share of the proceeds of the sale of production). Normally, royalty interests are free of all costs of production (drilling or operating the wells), except production taxes.

royalty payment
The cash or kind paid to the owner of mineral rights.

S

salinity
A measure of the concentration of dissolved salts. Water is defined as saline if it contains 3 to 5% salt by volume, and highly saline water is referred to as brine. The ocean is naturally saline at approximately 3.5% salt. Salinity is an important ecological factor, as it influences the types of organisms that live in a body of water, or the kinds of plants that will grow either in a water body, or on land fed by saline water.

sandstone
A sedimentary rock composed of individual mineral grains of rock fragments between 0.06 and 2 millimeters (0.002 and 0.079 inches) in diameter and cemented together by silica, calcite, iron oxide, and so forth.

scale
Is essentially a mineral deposit (for example, calcium carbonate) that forms when minerals separate out of water. The minerals harden and can adhere and build up inside of pipes, heaters, and other equipment.

secondary recovery
Enhances the recovery of liquid hydrocarbons by repressurizing the reservoir and reestablishing or supporting the natural water drive. See also waterflooding and enhancement of production.

seismic tests
Measurements of seismic-waves in an effort to detect boundaries between different kinds of rocks; this detection assists in mapping of geologic structures.

setback
The minimum allowable horizontal distance from a given reference point (e.g., a drilling rig) to the vertical wall or other element of a principal building or structure (e.g., a house).

severed mineral interest
An interest, which is held by someone other than the surface owner, in the minerals in, on, and under a given tract of land.

shale
A fine-grained sedimentary rock composed mostly of consolidated clay or mud. Shale is the most frequently occurring sedimentary rock.

shale shaker
A vibrating screen used to remove cuttings from the circulating fluid in rotary drilling operations. Also called a shaker.

shut in
To close the valves on a well so that it stops producing; or to close in a well in which a kick has occurred.

shut-in well
A well that is capable of producing but is not being produced. Reasons for wells being shut in may be lack of a pipeline, lack of a market, etc.

sour gas
Natural gas containing significant quantities of sulfur and/or carbon dioxide, making it impractical to use without purifying, because of its corrosive effect on piping and equipment and its danger to human life.

sour crude
Crude oil contaminated by sulphur compounds, typically hydrogen sulfide. Sour crude has sulphur content above 1%.

spacing
The distance between wells allowed by the regulatory body. The spacing is based on what is deemed to be the amount of acreage that can be efficiently and economically drainedby a well.

split estate
When the surface and subsurface estates are owned by different parties. See also severed mineral interest.

spud in
The operation of drilling the first part of a new well.

statute
A law established when an act is passed by a state or federal legislature.

storage tank
Tank for storing an accumulation of oil prior to its transfer to a pipeline company or other purchaser.

sweet gas
Natural gas that contains little or no sulfur or sulfur components, and therefore no processing is necessary for their removal, and the gas may be used directly as a non-corrosive domestic heating fuel.

T

tank battery
A collection of tanks used for oil storage prior to delivery to a refinery.

tank farm
An installation used by gathering and trunk pipeline companies, crude oil producers, and terminal operators (except refineries) to store crude oil.

three dimensional (3-D) seismic
An advanced method for collecting, processing seismic data to yield a three-dimensional picture of the subsurface.

tight formation gas
Gas produced from a sedimentary layer of rock cemented together in a manner that greatly hinders the flow of any gas through the rock.

tight sand
A sand or sandstone formation with low permeability.

title opinion
A statement of opinion by an attorney, often in the form of a letter, as to the state of the title to land, minerals, royalty, or working interests.

tract
Any specific area of land.

trap
A geological structure in which hydrocarbons build up to from an oil or gas field.

U

Underground Injection Control (UIC)
A program required in each state by a provision of the federal Safe Drinking Water Act (SDWA) for the regulation of injection wells. An applicant must demonstrate that the well has no reasonable chance of adversely affecting the quality of an underground source of drinking water before a permit is issued.

unit
The area covered by a unitization agreement.

unitization
This occurs when companies pool their individual interests in return for an interest in an overall unit, which could be all or some portion of a producing reservoir. The unit is then operated by a single company on behalf of group. As contrasted to "pooling," unitization involves a group of wells in an area, rather than the pooling of leases to create an enough of an area to constitute a drilling unit for one well. It commonly occurs under secondary recovery operations, when a number of producers in a field recognize the need to have a field-wide strategy to increase overall production in the field.

USGS
Abbreviation for United States Geological Survey.

V

viscosity
The resistance that a fluid has to natural flow. Oil's viscosity is usually greater than an oil and gas mixture.

VOC
Abbreviation for volatile organic compound. VOCs are compounds that have a high vapor pressure and low water solubility. VOCs include benzene, toluene, ethylbenzene and xylene; trichloroethylene; fuel oxygenates, such as methyl tert-butyl ether (MTBE); and VOCs are often components of petroleum fuels, hydraulic fluids and paint thinners. VOCs are common groundwater contaminants.

voluntary pooling
pooling of leased mineral tracts willingly undertaken by all the parties involved, both working interest owners and royalty owners.

valve
A device used to control the rate of flow in a line to open or shut off a line completely, or to serve as an automatic or semiautomatic safety device.

venting
release of gases to atmosphere.

W

waterflooding
Injecting water into one well, thereby causing oil not recovered by primary production to migrate to an adjacent well.

water quality
The chemical, physical and biological characteristics of water with respect to its suitability for a particular use.

water well
A well drilled to obtain a fresh water supply.

well
The hole made by the drilling bit for the purpose of finding or producing crude oil or natural gas or providing services related to the production of crude oil or natural gas. Wells are classified as oil wells, gas wells, dry holes, stratigraphic or core tests, or service wells. A wells may also be referred to as a borehole, hole, or wellbore.

well log
A record of geological formation penetrated during drilling, including technical details of the operation.

well completion
The activities and methods of preparing a well for the production of oil and gas or for other purposes, such as injection; the method by which one or more flow paths for hydrocarbons are established between the reservoir and the surface.

well logging
The use of radioactive, electric, mechanical, and sonic tools to identify formation and other downhole properties of the well bore.

wellbore
The borehole or hole drilled by the bit. A wellbore may have casing in it or it may be open (uncased); or part of it may be cased, and part of it may be open. Also called a borehole, hole or well.

wildcat well
A well drilled in an area where no oil or gas production exists. A well drilled for the purpose of discovering a new field or reservoir, as opposed to a development well, which is drilled in an area known to be productive.

workover
One or more of a variety of remedial operations used to try to increase production of a well.

wet gas
Natural gas having significant amounts of heavier hydrocarbons.

Z

zone
A layer of rock which has distinct characteristics that differ from nearby rock.