

Natural Gas Terminology

Volume Abbreviations:

Natural Gas

Mcf: one thousand cubic feet of natural gas

Mmcf: one million cubic feet of natural gas

Bcf: one billion cubic feet of natural gas

Tcf: one trillion cubic feet of natural gas

Mmcf/d: millions of cubic feet of gas per day

Energy equivalents

Boe: barrel of oil (one barrel of oil equals 6,000 cubic feet of natural gas)

Mboe: one thousand barrels of oil equivalent

Mmboe: one million barrels of oil equivalent

Mmcf: one million cubic feet of natural gas equivalent

Bcfe: one billion cubic feet of natural gas equivalent

Tcfe: one trillion cubic feet of natural gas equivalent

BTU – British Thermal Unit

The amount of energy required to raise the temperature of one pound of water by one Fahrenheit degree. One BTU is equivalent to 252 calories, 0.293 watt-hours or 1,055 joules.

CCF - One Hundred Cubic Feet

One CCF is one hundred cubic feet of natural gas at standard distribution pressure of 14.73 pounds per square inch and 60° Fahrenheit.

Christmas tree - The arrangement of pipes and valves at the wellhead to control the flow of oil or natural gas and to prevent blowouts. (See Wellhead)

CNG – Compressed Natural Gas

Completion - The procedure by which a successful well is readied for production.

Compressor station - Stations located along natural gas pipelines which recompress gas to ensure an even flow.

Conventional Resource – Any area where natural gas can be drilled and extracted vertically.

Cubic foot - The amount of natural gas required at room temperature at sea level to fill a volume of one cubic foot.

Derrick/Drilling Rig - A steel structure mounted over the borehole to support the drill pipe and other equipment that is lowered and raised during drilling operations.

Directional drilling - A technique that enables drilling at an angle to reach a particular underground formation.

DOE - Department of Energy

A cabinet-level federal agency created in 1977 to replace the Federal Energy Administration. The DOE manages national energy policy, nuclear power and nuclear weapons programs, and the national energy research labs.

Drilling permit - Authorization from a regulatory agency to drill a well.

Drillbit - Tool used in drilling to break up rock mechanically in order to penetrate the subsoil. The bit drills a circular hole.

EIA – Energy Information Administration

An agency within the U.S. Department of Energy. EIA provides energy data,

forecasts and analyses.

Flaring - The controlled and safe burning of gas which cannot be used for commercial or technical reasons.

Fracturing or fracing - The pumping of crude oil, diesel, water or chemicals into a reservoir with such force that the reservoir rock is cracked and results in greater flow of oil or gas from the reservoir.

Gas processing plant - A facility which extracts liquefiable hydrocarbons or sulfur from natural gas and/or fractionates a liquid stream.

Gathering - The process of collecting natural gas flowing from numerous wells and bringing it together into pooling areas where it is received into transmission pipelines.

Gathering lines - Pipelines that move natural gas or petroleum from wells to processing or transmission facilities.

GGE - Gasoline Gallon Equivalent

Horizontal drilling - An advanced form of directional drilling in which the lateral hole is drilled horizontally.

Landman - The individual in an oil and gas company or agent who negotiates oil and gas leases with mineral owners, cures title defects and negotiates with other companies on agreements concerning the lease.

LDC - Local Distribution Company

Liquefied natural gas (LNG) - Natural gas that has been cooled into a liquid state so that it takes up only 1/600 of the volume of natural gas.

Liquefied petroleum gas (LPG) - Propane, butane or propane-butane mixtures derived from crude oil refining or natural gas fractionation. For convenience of transportation, these gases are liquefied through pressurization.

Mineral interest - An ownership of the minerals beneath a tract of land. If the surface ownership and the mineral ownership are different, the minerals are said to be "severed."

Natural gas - A naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in porous rock formations. Its principal component is methane.

Natural gas liquids (NGL) - A general term for liquid products separated from natural gas in a gas processing plant. These include propane, butane, ethane and natural gasoline.

NGV - Natural Gas Vehicle

Operator - The party responsible for exploration, development or production projects.

Permeability - A measure of the resistance offered by rock to the movement of fluids through it.

Pipeline - A string of interconnected pipe providing a route for natural gas to travel from the wellhead to market. Without pipelines, natural gas cannot be transported and sold at market to provide royalty payments, clean energy and economic benefits to the community.

Plug - A permanent plug, usually cement, set in a borehole to block the flow of fluids, to isolate sections of the well or to permanently plug a dry hole or depleted well.

Pooling - A term frequently used interchangeably with “unitization;” more properly, it refers to the combining of small or irregular tracts into a unit large enough to meet state spacing regulations for drilling permits. “Unitization” is a term used to describe the combined operations of all or some portion of a producing reservoir.

Porosity - The open space within a rock, similar to pores in a sponge.

Processing - The separation of oil, gas and natural gas liquids and the removal of impurities.

Proved Reserves - The quantity of oil and natural gas estimated to be recoverable from known fields under existing economic and operating conditions. This is determined on the basis of drilling results, production and historical trends.

Reservoir - Porous, permeable rock containing oil and natural gas; enclosed or surrounded by layers of less permeable or impervious rock.

Royalty - The share of production or proceeds reserved to a mineral owner under the terms of a mineral lease. Normally, royalty interests are free of all costs of production except production taxes and transportation costs. It is established in the lease by reserving a royalty which is usually expressed as a fraction of production.

SCF – Standard Cubic Feet

Seismic - A tool for identifying underground accumulations of oil or natural gas by sending and measuring the return of energy or sound waves. It is a computer-assisted process that maps sedimentary structures to assist in planning drilling programs.

Shales – Gas reserves found in unusually nonporous rock, requiring special drilling and completion techniques.

Shut In Well - A well which is producing or capable of producing but is not produced. Reasons for wells being shut in may be lack of pipeline access to market or economically unfavorable market prices.

Sound Blanket - A sound blanket or a wall sometimes erected in order to reduce the noise emitted from a drilling rig.

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

Spud - The commencement of drilling operations.

Tank Battery - Tank batteries are part of the production equipment installed after a well is completed. They store the salt water that is returned from a producing well.

Wellhead - The control equipment fitted to the top of the well, consisting of outlets, valves, blowout-prevention equipment, etc.

Working Interest - The right granted to the lessee of a property to explore for and to produce and own oil, gas or other minerals. The working interest owners bear the exploration, development and operating costs.

Unconventional Resource - Any area (shales, tight sands, fractured carbonates) where natural gas cannot be drilled and extracted vertically.