

A

Abandoned

A dry hole in which no producible oil or gas was present, or a well that has stopped producing. Abandoned wells must be plugged to prevent seepage of oil, gas, or water from one formation to another.

Active well

A well in mechanical condition for production or service use (i.e., in active production or service use).

Anticline

An upfold or arch of stratified rock in which the beds or layers bend downward in opposite directions from the crest or axis of the fold.

API

The American Petroleum Institute is the oil industry's trade organization. API's research and engineering work provides a basis for establishing operating and safety standard issues; specifications for the manufacturing of oil field equipment; and furnishes statistical and other information to related agencies.

Associated gas

Gas combined with oil. Known also as gas cap gas and solution gas, it provides the drive mechanism needed to force oil to the surface of a well. Associated gas is normally present in an oil reservoir in the early stages of production.

B

Barrel

The standard unit of measure of liquids in the petroleum industry; it contains 42 U.S. standard gallons.

Barrel of Oil Equivalent (BOE)

The amount of energy resource (in this document, natural gas) that is equal to one barrel of oil on an energy basis. The conversion is based on the assumption that one barrel of oil produces the same amount of energy when burned as 5,620 cubic feet of natural gas.

Basin

A depression of the earth's surface into which sediments are deposited, usually characterized by sediment accumulation over a long interval; a broad area of the earth beneath which layers of rock are inclined, usually from the sides toward the center.

Bed

A layer of rock, usually sediments, which is homogeneous (the same) in composition. One bed is separated from another by a bedding plane.

Bid

An offer for an OCS lease submitted by a potential lessee in the form of a cash bonus dollar amount or other commitments as specified in the final notice of sale.

Block

A numbered area on an OCS leasing map or official protraction diagram (OPD). Blocks are portions of OCS leasing maps and OPD's that are themselves portions of planning areas. Blocks vary in size, but typical ones are 5,000 to 5,760 acres (about 9 square miles or 2,304 hectares). Each block has a specific identifying number, area, and latitude and longitude coordinates that can be pinpointed on a leasing map or OPD.

Blowout

An uncontrolled flow of gas, oil, or other fluids from a well to the atmosphere. A well may blow out when formation pressure exceeds the pressure overburden of a column of drilling fluid.

Blowout preventer

A special assembly of heavy-duty valves, commonly called the BOP stack, installed on top of a well which can be closed to prevent high-pressure oil or gas from escaping (a blowout) from the well hole during drilling operations.

Bonus

The cash consideration paid to the United States by the successful bidder for a mineral lease. The payment is made in addition to the rent and royalty obligations specified in the lease.

Borehole

The hole in the earth made by the drill; the uncased drill hole from the surface to the bottom of the well.

C**Casing**

Steel pipe used in oil wells to seal off fluids in the rocks from the bore hole and to prevent the walls of the hole from caving.

Casinghead

The top of the casing set in a well; the part of the casing that protrudes above the surface and to which the control valves and flow pipes are attached.

Casinghead gas

Gas produced from an oil well as distinguished from gas from a gas well. The casinghead gas is taken off at the top of the well or at the separator.

Choke

A type of orifice installed at the surface on the tubing string to adjust and control the amount of oil or gas flowing from a well. It is customary to refer to the production of a well as so many barrels or thousands of cubic feet through a 1/4-inch or 1/2-inch choke, or whatever the size of the opening. The flowing pressure exerted by the well's production give an indication of the strength of the well, and is helpful in determining whether a well is commercial.

Commercial well

A well of sufficient net production that it could be expected to pay out in a reasonable time and yield a profit from the operation. A shallow 50-barrel-a-day well in a readily accessible location

onshore could be a commercial well. Such a well in virtually any offshore area where enormously expensive producing facilities and pipe lines would have to be constructed would not be considered commercial.

Completed well

A well that has been mechanically completed for production or service use. There may be more than one completed zone in the well. (See Active well.)

Concession

Usually used in foreign operations and refers to a large block of acreage granted to the operator by the host government for a certain time and under certain government conditions which allows the operator to conduct exploratory and/or development operations. The Concession Agreement assures the holder of certain rights under the law.

Condensate

A natural gas liquid with a low vapor pressure, compared with natural gasoline and liquified petroleum gas. It is produced from a deep well where the temperature and pressure are high. Gas condenses as it rises up the wellbore and reaches the surface as condensate. Similarly, condensate separates out naturally in pipelines or in a separation plant by the normal process of condensation.

Condensate

Liquid hydrocarbons produced with natural gas which are separated from it by cooling, expansion, and various other means (also called "distillate").

Continental margin

A zone separating the emergent continents from the deep sea bottoms.

Continental shelf

A broad, gently sloping, shallow feature extending from the shore to the continental slope.

Continental slope

A relatively steep, narrow feature paralleling the continental shelf; the region in which the steepest descent of the ocean bottom occurs.

COST

Continental Offshore Stratigraphic Test. These tests under the direction of the Minerals Management Service are wells deliberately drilled to provide geological information pertinent to competitive bidding for offshore tracts.

D

Demonstrated reserves (American Petroleum Institute)

A collective term for the sum of proved and indicated reserves. Proved reserves are estimated with reasonable certainty to be recovered under current economic conditions. Indicated reserves are economic reserves in known productive reservoirs in existing fields expected to respond to improved recovery techniques where (1) an improved technique has been installed but its effect cannot yet be fully evaluated, or (2) an improved technique has not been installed

but knowledge of reservoir characteristics and the results of a known technique installed in a similar situation are available for use in the estimating procedure.

Development

Activities following exploration including the installation of facilities and the drilling and completion of wells for production purposes.

Diapir

A mass of rock, usually salt, which has come from a slightly deeper part of the earth's surface by piercing through overlying layers of sediment through a zone of weakness.

Directional drilling

The technique of drilling at an angle from the vertical by deflecting the drill bit. Directional wells are drilled to develop an offshore lease from one drilling platform; to reach a pay zone where drilling cannot be done, such as beneath a shipping lane.

Discovery

A find of significant quantities of gas or oil.

Dome

A roughly symmetrical upfold of the layers of rock in which the beds dip in all directions more or less equally from a common point; any deformation characterized by local uplift and approximately circular in outline; e.g. the salt domes of Louisiana and Texas.

Drill cuttings

Chips and small fragments of drilled rock that are brought to the surface by the flow of the drilling mud as it is circulated.

Drill pipe

Heavy, thick walled, hollow steel pipe used in rotary drilling to turn the drill bit and to provide a conduit for the drilling mud.

Drilling contractor

A person or company whose business is drilling wells. Wells are drilled on several contract specifications: per foot, day rate, or turnkey (that is, upon completion). Most major oil companies do not own drilling rigs. Exploration and development drilling is contracted. Personnel manning the rigs work for the contractor.

Drilling mud

A special mixture of clay, water, or refined oil, and chemical additives pumped downhole through the drill pipe and drill bit. The mud cools the rapidly rotating bit; lubricates the drill pipe as it turns in the well bore; carries rock cuttings to the surface; serves as a plaster to prevent the wall of the borehole from crumbling or collapsing; and provides the weight or hydrostatic head to prevent extraneous fluids from entering the well bore and to control downhole pressures that may be encountered.

Dry hole

A well drilled to a certain depth without finding commercially exploitable hydrocarbons.

Dry gas

Natural gas from the well that is free of liquid hydrocarbons; gas that has been treated to remove all liquids; pipeline gas.

E

Economically Recoverable Resource Estimate

An assessment of hydrocarbon potential that takes into account (1) physical and technological constraints on production and (2) the influence of exploration and development costs and market price on industry investment in OCS exploration and production.

Electric logging tool

A tool attached to a cable which is lowered into a well to survey the borehole before it is cased. An electrical impulse is emitted which is reflected from the rock strata. The degree of resistance to the current allows geologists to determine the nature of the rock penetrated by the drill and some indication of its permeability, porosity, and content (gas, oil, or water).

Environmental impact statement

A statement required by the National Environmental Policy Act of 1969 (NEPA) or similar state law in relation to any action significantly affecting the environment, including certain exploration and drilling activities.

Erosion/scour

The removal or dissolution of parts of the seabed by bottom currents, particularly those by storms. Transportation by currents of the removed material can result in significant movement of masses of sand, silt, and mud on the sea floor. This migration of sediment can "strand" drilling platform supports or wellhead plumbing by erosion of the surrounding support sediments.

Exclusive Economic Zone (EEZ)

An area contiguous to the territorial sea of the United States, the Commonwealth of Puerto Rico, the Commonwealth of Northern Mariana Islands, and the U.S. overseas territories and possessions and extending 200 nautical miles from the coastline.

Exploration

The process of searching for minerals preliminary to development. Exploration activities include (1) geophysical surveys, (2) drilling to locate an oil or gas reservoir, and (3) the drilling of additional wells after a discovery to delineate a reservoir. It enables the lessee to determine whether to proceed with development and production.

F

Field

A geographical area in which one or more oil or gas wells produce. A field may refer to surface area only or to underground productive formation. A single field may include several reservoirs separated either horizontally or vertically.

G

Gas lost

Avoidably lost natural gas which is flared or vented (i.e., natural gas not retained in the production system for sale or use).

L

Lease

A legal document executed between a landowner, as lessor, and a company or individual (as lessee) that conveys the right to exploit the premises for minerals or other products for a specified period of time over a given area.

Lease Sale (also called lease offering)

An MMS proceeding by which leases of certain OCS tracts are offered for lease by competitive sealed bidding and during which bids are received, announced, and recorded.

M

Marginal probability of hydrocarbons (MPHC)

The probability that oil and gas occur in commercial quantities, using existing recovery technology under current economic conditions.

Minimum royalty

The lowest payment a lessee can pay on an OCS lease after production begins. It is equivalent to the yearly rental, typically \$3 per acre or \$8 per hectare. Rentals are paid annually before a discovery; royalties are paid on production after a discovery. If the total royalty payments amount to less than the yearly rental, the minimum royalty payments make up the difference. (See Rent and Royalty.)

N

Net Profit Share lease

An OCS lease that provides for payment to the U.S. of a percentage share of the net profits for production of oil and gas from the tract. The percentage share may be fixed in the notice of the lease sale or may be a variable of the bid, depending on the bidding system used for the lease sale.

Nonassociated gas

Dry gas that is not associated with oil in a productive reservoir, as opposed to associated gas or solution gas.

O

Oil lost

Oil that is spilled or burned (i.e., oil not retained in the production system for sale).

Operator

The individual, partnership, firm, or corporation having control or management of operations on a leased area or a portion thereof. The operator may be a lessee, designated agent of the lessee, holder of rights under an approved operation agreement, or an agent of an operating rights holder.

Outer Continental Shelf (OCS)

All submerged lands seaward and outside the area of lands beneath navigable waters. Lands beneath navigable waters are interpreted as extending from the coastline 3 nautical miles into the Atlantic Ocean, the Pacific Ocean, the Arctic Ocean, and the Gulf of Mexico excluding the coastal waters off Texas and western Florida. Lands beneath navigable waters are interpreted as extending from the coastline 3 marine leagues into the Gulf of Mexico off Texas and western Florida.

P

Planning area

A subdivision of an offshore area used as the initial basis for considering blocks to be offered for lease.

Plugged and abandoned

Wells in which casings have been removed, and the well bore sealed with mechanical or cement plugs.

Producible lease

A lease where one well or several wells have discovered hydrocarbons in paying quantities, but for which there is no production during the reporting period.

Producible zone completion

The interval in a wellbore that has been mechanically prepared to produce oil, gas, or sulphur. There can be more than one zone completed for production in a wellbore.

Producing lease

A lease that is producing oil, gas, or sulphur in quantities sufficient to generate royalties.

Production

The phase of oil and gas operations involved with well fluids extraction, separation, treatment, measurement, etc.

Proven reserves (Society of Petroleum Engineers)

Reserves that can be estimated with reasonable certainty to be recovered under current economic conditions. Current economic conditions include processing costs prevailing at the time of the estimate. Proved reserves must either have facilities that are operational at the time of the estimate to process and transport those reserves to market, or a commitment of reasonable expectation to install such facilities in the future. Proved reserves can be subdivided into undeveloped and developed.

R

Rent

Periodic payments made by the holder of a lease, during the primary lease term for the right to use the land or resources for purposes established in the lease.

Royalty

Payment, in value (money) or in kind, of a stated proportionate interest in production from mineral deposits by the lessees to the lessor. The royalty rate may be an established minimum, a sliding-scale, or a step-scale. A step-scale royalty rate increases by steps as the

average production on the lease increases. A sliding-scale royalty rate is based on average production and applies to all production from the lease.

S

Sales value

The proceeds received for the sale of the mineral.

Service zone completion

The interval in a well bore that has been mechanically prepared for service use, usually water or gas injection to stimulate production from other wells or for water or other waste disposal.

Shut-in payments

Payments made for any producible well on the Federal OCS that is temporarily closed down. (See Shut-in zone completion.)

Sulphur

A nonmetallic element that occurs in association with salt diapirs throughout much of the onshore and offshore Gulf of Mexico region. All offshore sulphur is mined by the Frasch process, which uses hot brine to melt sulphur out of the enclosing rock so the molten sulphur can be recovered.

Suspended well

A well on which operations have been discontinued. The usual context is an uncompleted well in which operations ceased during drilling but which has not been plugged and abandoned permanently.

W

Well

A hole drilled or bored into the earth, usually cased with metal pipe, for the production of gas or oil. A hole for the injection under pressure of water or gas into a subsurface rock formation.

Workover

Operation on a shut-in or producing well to restore or increase its production.