

Glossary

Term	Definition
abandoned well	A well that has had its wellbore secured and is no longer in use. A well may be either temporarily or permanently abandoned.
AFMSS	BLM database used to track lease and agreement ownership, well identification, location and history, casing information, geologic formations, resource protection, production, and operator compliance on public and Indian lands.
agreement	An approved document grouping leases together for various purposes. Types of agreements include communitization, unitization, and compensatory royalty agreements.
allocation meter	A measurement device used for providing a volume (liquid or gas) that is the basis for allocating a known sales volume.
American Petroleum Institute (API)	A trade association that establishes institute (API) standards and recommended procedures for the oil and gas industry.
annulus	The space between the surface casing and the producing casing.
API gravity	An indicator of the quality of oil expressing the specific weight of liquid hydrocarbons. The lower the specific gravity, the higher the API gravity.
API unit	Non-Federally approved units of which Federal participation is normally less than 10 percent. Federal supervision is maintained over only the Federal/Indian leases involved for production accountability.
API well number <i>See also US Well Number</i>	A 12-digit identification number assigned by States for onshore wells and by the appropriate BSEE district office for OCS (offshore) wells. (See Appendix F .)
area and block	A surface area division of OCS used for locating leases.
arm's-length contract	A contract or agreement between independent persons who are not affiliates and who have opposing economic interests regarding that contract.
basic sediment and water (BS&W)	Impurities contained in the fluid as produced from an oil well.

Term	Definition
BOEM	Bureau of Ocean Energy Management — one of three agencies that replaced the former Minerals Management Service (MMS). BSEE and ONRR are the other two agencies.
British thermal unit (Btu)	The amount of heat required to raise the temperature of one pound of water one degree Fahrenheit.
BSEE	Bureau of Safety and Environmental Enforcement — one of three agencies that replaced the former Minerals Management Service (MMS). BOEM and ONRR are the other two agencies.
Btu/cu ft	Quality or heating value of natural gas
carbon dioxide (CO ₂)	An inert, noncombustible, odorless gaseous compound of carbon and oxygen (CO ₂). It is used primarily for secondary recovery operations.
<i>Code of Federal Regulations</i> (CFR)	A codification of the general and permanent rules of Federal departments and agencies initially published in the <i>Federal Register</i> .
commingled production	Commingling, for production accounting and reporting purposes, means combining production from multiple leases, unit PAs, CAs, or combining production from one or more leases, unit PAs or CAs with production from state, local governmental or private properties before the point of royalty measurement. Combining production from multiple wells on a single lease, unit PA, or CA before measurement is not considered commingling. Combining production downhole from different geologic formations <i>on the same lease, unit PA, or CA</i> is not considered commingling for production accounting purposes.
communitization agreement	An agreement that brings together parcels of land to satisfy drilling limitations imposed by formal State spacing orders or established field spacing rules.
compensatory royalty agreement	An agreement developed for unleased Federal or Indian land being drained by a well located on adjacent land.
compensatory royalty assessment	A royalty paid in lieu of drilling a well that would otherwise be required under the covenants of a lease, express or implied. When a lessee has leases covering two or more contiguous tracts, such as tracts A and B, and drills a well on tract A, it normally is obligated under the offset well covenant to drill a well on tract B. If existing development of the two tracts is adequate to recover the oil or gas in place, the lessee may elect to pay the royalty owners of tract B a compensatory royalty in lieu of the expense of drilling the offset well.

Term	Definition
completion abandoned	A producing interval within a wellbore that is rendered incapable of producing; for example, squeezed or isolated.
condensate	Liquid hydrocarbons (normally exceeding 45 degrees of API gravity) recovered at the surface without resorting to processing. Condensate is the mixture of liquid hydrocarbons that results from condensation of petroleum hydrocarbons existing initially in a gaseous phase in an underground reservoir.
county code	A three-digit code used in API well and facility/measurement point numbers to identify a county within a State.
crude oil	Unrefined liquid petroleum; a mixture of hydrocarbons that was liquid in its natural phase in underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Crude oil usually ranges in API gravity from 9 degrees to 45 degrees and in color from yellow to black. It may have paraffin, asphalt, or mixed base. If it is crude oil and contains a sizable amount of sulfur or sulfur compounds, it is called sour crude; if it has little or no sulfur, it is called sweet crude. In addition, crude oils may be referred to as heavy or light according to the API gravity, with the lighter oils having the higher gravity.
database	A collection of information organized in a logical, systematic manner.
designated operator	The entity engaged in the business of drilling for, producing, or processing oil, gas, or other minerals. Operator is defined as “any person or entity including but not limited to the lessee or operating rights owner, who has stated in writing to the authorized officer that it is responsible under the terms and conditions of the lease for the operations conducted on the leased lands or a portion thereof” (43 CFR 3160.0–5).
drip facility	Equipment designed to extract and store small volumes of liquids from a gas stream.
drip (pipeline)	Liquid hydrocarbons that condense out of the gas stream in a pipeline during transmission of natural gas and are stripped from the gas stream prior to the inlet of a gas plant. Also referred to as “drip condensate” or “pipeline condensate.
dry Btu content	.The heating value contained in a cubic foot of natural gas containing no water vapor.

Term	Definition
dry gas	Gas that contains no water vapor
entitlements	The method of reporting sales where the volume reported is equal to the reporter's percentage of working interest or operating rights ownership in a lease or amount allocated to a lease under an approved agreement allocation schedule. The lease's allocated volume based on the commingling approval.
error	<p>A condition identified by the reporter or ONRR on input forms that prevents the reported information from entering the system for processing. Errors under the financial accounting system include the following:</p> <ul style="list-style-type: none"> • Missing or incomplete data • Illegible reports (paper) • Mathematical inaccuracies • Invalid codes • Invalid report field combinations
facility	A structure used to store or process Federal or Indian production prior to or at the point of royalty determination; for example, tank batteries and gas plants.
facility/measurement point (FMP)	As a facility that sells, stores, or transfers Federal or Indian production prior to or at the point of royalty determination; for example, gas plants, tank batteries, or other inventory storage points. A measurement point is defined as a metering point where Federal or Indian production is measured for sales, transfers, or royalty determinations; for example, LACT units or orifice meters.
Federal land	All land and interests in land owned by the United States that are subject to mineral leasing laws, including mineral resources or mineral estates reserved to the United States in the conveyance of a surface or non-mineral estate.

Term	Definition
fee land	Privately owned land. Wells located on fee land are not reported to ONRR unless they are part of an agreement containing Federal and/or Indian leases/agreements. Production reports must be submitted for these wells from the time the agreement is effective until the wells are abandoned or the agreement is terminated.
financial accounting system	The ONRR system responsible for collecting, accounting for, and distributing royalty payments on minerals produced from Federal and Indian lands.
first production	Initial oil and gas production from a well and initial royalty-bearing geothermal production, as determined by BLM.
flare gas	<p>Gas burned in the field as a means of disposal when there are emergencies, during certain well tests, and in other situations where approval is granted by BSEE or BLM, as appropriate.</p> <p>Per BLM regulation, flared gas can be either a royalty-bearing or non-royalty-bearing volume.</p>
flash gas	Gas that is formed from a liquid hydrocarbon, usually due to the reduction of pressure.
formation	A bed or deposit composed throughout of substantially the same kind of rock; a lithological unit. Each different formation is given a name, frequently as a result of the study of the formation outcrop at the surface and sometimes based on fossils found in the formation.
frac oil	Oil introduced into a wellbore in order to fracture the producing formation to increase production flow.
fuel gas	Gas used by the lessee for operational purposes on the lease.
gas	As reported for all Federal and Indian leases, any fluid, either combustible or noncombustible (except helium), produced from an underground reservoir and having neither independent shape nor volume, but tends to expand indefinitely at the surface. Gas is any substance (except helium) existing in gaseous stage at the surface under normal conditions. It includes, but is not limited to, carbon dioxide, nitrogen, and hydrocarbon gases.

Term	Definition
gas completion	A completion from which the energy equivalent of the gas produced (including the entrained liquid hydrocarbons) exceeds the energy equivalent of the oil produced.
gas injection well	A well used to introduce high-pressure gas into a formation as part of a pressure maintenance, secondary recovery, or recycling operation.
gas-lift gas	Natural gas used in gas-lift operations, which is an artificial-lift method to help raise water and oil in the fluid column of a well.
gas plant	An installation that processes natural gas to prepare it for sale to consumers. A gas plant separates desirable hydrocarbon components from the impurities in natural gas.
gas storage agreement	An agreement that provides for the temporary storage of natural gas in a subsurface structure such as a salt dome. Gas storage agreements are reported to BLM, not ONRR.
GPM (gallons per thousand cubic feet)	The amount, in gallons, of an NGL that is entrained in one Mcf of gas.
helium	A colorless, odorless, inert, gaseous element. It is reserved to the Federal Government and withheld from leasing. It may not be separated and sold without a special agreement with DOI.
Indian land	Any lands or interest in lands of an Indian tribe or allottee held in trust by the United States, or that is subject to Federal restriction against alienation. This includes mineral resources and mineral estates reserved to an Indian tribe or allottee in the conveyance of a surface or non-mineral estate, except that such term does not include any lands subject to the provisions of Section 3 of the Act of June 28, 1906 (34 Stat. L. 539), applicable to the Osage Indian Tribe. BIA monitors Indian leases.
injection well	A well employed for the introduction into an underground stratum of water, gas, or other fluid under pressure, normally used to enhance recovery.

Term	Definition
lease	Any contract, profit-sharing arrangement, joint venture, or agreement issued or approved by the United States under a mineral leasing law that authorizes exploration for, extraction of, or removal of oil or gas. In this handbook, “agreement” and “lease” are used synonymously with unitization and communitization agreements.
lease allocations	For production purposes, the volumes of production and sales allocated to your lease/agreement based on the BSEE commingling approval.
lease automatic custody transfer (LACT) unit	An automated system for measuring and transferring oil.
lease production	Oil, gas, and geothermal resources produced from wells on a single lease.
lease site	Any lands or submerged lands, including the surface of a severed mineral estate, on which exploration for or extraction or removal of oil or gas is authorized pursuant to a lease.
lessee	The entity (company or individual) entitled under an oil, gas, or geothermal lease to explore for and produce minerals from a lease. The lessee has the responsibility for payment of royalties but may authorize others to do so on its behalf.
lessor	The owner of mineral rights through execution of a lease. For the purposes of the financial accounting system, the lessor is the U.S. Government, an Indian tribe, or an Indian allottee.
load oil	Any oil that has been used with respect to the operation of oil or gas wells for wellbore stimulation, workover, chemical treatment, or production purposes. It does not include oil used at the surface to place lease production in marketable condition.
mole percent	The quantity of a substance whose unit weight is numerically equal to the molecular weight of the substance. For gas analysis, mole percent units are the same as volume percent units.
monitoring well	A well used to monitor production or to observe fluid levels, downhole pressures, and water infusion.

Term	Definition
natural gas	A highly compressible and expansible mixture of hydrocarbons having a low specific gravity and occurring naturally in a gaseous form. Natural gas may contain appreciable quantities of nitrogen, helium, carbon dioxide, and contaminants, such as hydrogen sulfide and water vapor. Certain gases may be found as liquids under suitable conditions of temperature and pressure.
natural gas liquid (NGL)	Hydrocarbons liquefied at the surface in field facilities or gas processing plants.
non-arm's-length	Sales occurring between affiliated persons as defined in 30 CFR Part 1206.
nonproducing gas completion	A gas completion mechanically able to produce but for some reason has no production.
nonproducing oil completion	An oil completion mechanically able to produce but for some reason has no production.
off-lease measurement	Measurement of production volumes at an FMP (point of royalty measurement) that is not located on the lease or any type of agreement from which the production came.
oil	Crude petroleum oil and other hydrocarbons, regardless of gravity, that are produced at the wellhead in liquid form and the liquid hydrocarbons known as distillate or condensate recovered or extracted from gas, other than gas produced in association with oil and commonly known as casinghead gas.
oil completion	A completion from which the energy equivalent of the oil produced exceeds the energy equivalent of the gas produced, including the entrained liquid hydrocarbons.
ONRR	Office of Natural Resources Revenue – one of three agencies that replaced the former Minerals Management Service (MMS). BOEM and BSEE are the other two agencies. ONRR operates under the Office of the Secretary - Department of the Interior.
operating rights owner	A person or entity holding operating rights in a lease issued by the United States.
operator	An individual, partnership, firm, or corporation that controls or manages operations on the leased land or a portion thereof. An operator may be the lessee, designated agent of a lessee, or a holder of rights under an approved operating agreement.

Term	Definition
operator number	A five-character company code assigned by ONRR or BSEE to identify any operator producing, selling, storing, or transferring Federal or Indian production prior to the point of sale or royalty determination, whichever is later.
orifice meter	A device that measures the volume of gas delivered through a pipe for sales or transfers.
Outer Continental Shelf (OCS)	All submerged lands within the jurisdiction and control of the United States Government as defined in section 2 of the Outer Continental Shelf Lands Act (43 U.S.C. 1331(a)).
participating area	That part of a unit area proved to be productive of unitized substances in paying quantities and within which production is allocated in the manner described by a unit agreement.
percentage-of-proceeds contract (POP)	A contract for the purchase of gas providing for a percentage of the proceeds as payment.
pigging	Using a scraping device for cleaning and testing petroleum and natural gas pipelines, or to separate different throughputs in a pipeline.
pipeline condensate	Liquid hydrocarbons that have condensed from gas to liquid as a result of changes in pressure and temperature as gas flows in a pipeline. Pipeline condensate only remains as a liquid under high-pressure conditions and would vaporize at atmospheric pressure.
pooled production	Industry term for communitization; commonly used to refer to unit agreements (UA) and communitization agreements (CA).
pooling agreement	An agreement that brings together separately owned interests for the purpose of obtaining a well permit under applicable spacing rules or to develop a potentially productive area efficiently. A communitization or unitization agreement.
pounds per square inch, absolute (psia)	A measurement of pressure that includes atmospheric pressure. Absolute pressure is the sum of atmospheric pressure plus gauge pressure.
pounds per square inch, gauge	A measurement of pressure as indicated by a gauge.
processing	Any process designed to remove elements or compounds (hydrocarbon and nonhydrocarbon) from gas. Field processes that normally take place on or near the lease, such as natural pressure reduction, mechanical separation, heating, cooling, dehydration, and compression, are not considered processing.

Term	Definition
producing interval	A three-character code that identifies the number of tubing strings capable of producing to the surface and the producing or injection interval of a well. (See Appendix G.)
producing lease	A lease that includes land on which there is a productive well, either active or shut-in, or land determined to be subject to subsurface drainage.
product	Marketable mineral production from a lease or agreement.
production activities	The activities performed to extract oil or gas from a reservoir or formation. This includes field operations, transfer of oil or gas off the lease site, operation monitoring, maintenance, and workover drilling.
production month	The calendar month and year in which production and/or disposition occurs.
raw gas	Gas as produced from a well before the extraction of liquefiable hydrocarbons.
raw make	Liquid components extracted from a natural gas stream.
reporter	Any designated operator or payor required to submit a report or form to ONRR. See designated operator in glossary.
residue gas	The gas that remains after processing at a gas plant to remove natural gas liquids (NGLs) or other gas plant products.
royalty	Any part of oil, gas, and geothermal resources or their cash value paid by a lessee and/or parties acquiring possession of royalty rights based on a certain percentage of production from the property.
royalty determination point	The point at which the royalty volume or the royalty value is determined.
royalty in kind (RIK)	An arrangement in which the lessor receives royalties in the form of production (oil and gas) instead of dollars.
royalty in value	An arrangement in which the lessor receives royalty dollars instead of royalty production.
sales meter	A measuring device used to ascertain the quantity or volume of oil or gas produced passing through the device.
scrubber (pipeline) condensate	Liquid hydrocarbons that condense out of a gas stream during transmission and are recovered using mechanical separation prior to entering the inlet of a gas plant.

Term	Definition
scrubber (plant) condensate	Liquid hydrocarbons that condense out of a gas stream and are recovered using mechanical separation after the gas has entered the gas plant, but before NGL extraction begins.
secondary recovery	Any method by which an essentially depleted reservoir is restored to producing status by the injection of liquids or gases (from extraneous sources) into the wellbore.
sediment and water (S&W)	Impurities contained in oil or condensate expressed as a percentage of total liquid volume.
segregation	A division of a lease, usually due to the partial assignment of a portion of the lease or due to unitization.
shrinkage	The decrease in volume of a liquid hydrocarbon caused by the release of solution gas and/or by the thermal contraction of the liquid.
shut-in well	A producing well that is closed down temporarily for repairs, cleaning out, building up pressure, lack of a market, etc.
sidetrack	A directional re-drill in which an additional hole is drilled by angling away from a previously drilled hole at some depth below the surface and above the bottom hole depth.
spacing	Distance between wells producing from the same pool as specified by State regulations (usually expressed in terms of acres, for example, 640-acre spacing). CAs usually follow State spacing orders. Also, the regulation of the number and location of wells over an oil or gas reservoir, as a conservation measure.
squeeze	A well in which the producing interval is rendered incapable of production by sealing off a part of a well hole or through isolation.
State land	Land and interest in land owned by a State. Oil and gas wells completed on State lands are reported to ONRR only if they are part of an agreement that includes Federal wells.
steam injection well	A well where steam is injected downhole to enhance recovery.
surface management agency	Agencies within DOI that issue leases on Federal and Indian lands, including the OCS, and oversee the operations and development of same.

Term	Definition
surge tank	A vessel on a flow line whose function is to receive and neutralize sudden transient rises or surges in the stream of liquid.
suspension	A lease temporarily rendered inactive because of forces of nature, economic conditions, environmental impact studies, or other reasons. Wells are shut in. If both operations and production are suspended, reporting and payment requirements are held in abeyance during this period, and the term of a lease is extended for the period of suspension. If either operations or production is suspended, rent and minimum royalty continue to fall due.
takes	The method of reporting royalties where the volume reported is the actual volume of production sold or removed from the lease by you or on your behalf.
tank battery	A facility (that is, a single tank or group of tanks) used to store liquid hydrocarbon production before sale or used as the sales point for the liquid hydrocarbon production.
termination	Lapsing of a nonproducing lease for failure to pay timely rentals or for lack of production or lease activity.
tertiary recovery	Tertiary recovery, also known as Enhanced Oil Recovery (EOR), is the third stage of extracting oil after primary and secondary recovery methods have been exhausted. Tertiary recovery methods include thermal injection, gas injection (such as CO ₂), and chemical injection.
tribal land	Land owned by an entire group or tribe of Native Americans.
unitization agreement (unit)	An agreement among owners and leaseholders of separate oil, gas, or geothermal interests to operate as a unit in developing a potentially productive area most efficiently. Leasehold interest may be separate. Costs and benefits are allocated as defined in the agreement.
unprocessed gas	Natural gas production, usually containing liquid hydrocarbons in solution; i.e., the gas has not yet been processed to remove the NGLs or other gas plant products.
US Well Number <i>See also API Well Number</i>	A 12-digit identification number assigned by States for onshore wells and by the appropriate BSEE district office for OCS (offshore) wells. (See Appendix F.)

waste oil/slop oil	Oil of such poor quality that it cannot be economically placed in marketable condition. This is a determination that must be made by the appropriate BSEE or BLM office.
watered out	The movement of water into the oil or gas zone of a reservoir as that zone is depleted by production.
weighted average	See below examples of weighted average calculations.

Weighted Average:

API Gravity

OGOR sales volume = 1,500 bbl

1,000 bbl @ 40.2° API

500 bbl @ 39.8° API

$$\text{Weighted average} = \frac{(1,000 \times 40.2) + (500 \times 39.8)}{1,500} = 40.06 = 40.1^\circ \text{ API}^a$$

^a Round API gravity to the nearest tenth.

Btu Content

OGOR sales volume = 2,000 Mcf

1,000 Mcf @ 1,010 Btu

600 Mcf @ 1,000 Btu

400 Mcf @ 1,015 Btu

$$\text{Weighted average} = \frac{(1,000 \times 1,010) + (600 \times 1,000) + (400 \times 1,015)}{2,000} = 1,008 \text{ Btu}^b$$

^b Round Btu to the nearest whole number.