



DMS Oil & Gas Terminology

A

Acidizing:

The technique of pumping a form of hydrochloric acid down the well hole to enlarge the pore space in oil bearing rocks, thus increasing oil flow and recovery.

AGA:

American Gas Association. Major natural gas industry trade association, based in Alexandria, Virginia. AGA conducts technical research and helps create standards for equipment and products involved in every facet of the natural gas industry. It also compiles statistics which are considered industry standards.

Anticline:

A fold in layered rocks originating below the surface in the form of an elongated dome. Anticlines make excellent drilling prospects since any oil in the deposit will naturally rise to the highest point of the structure because oil has a lower specific gravity than water.

API

American Petroleum Institute. The primary U.S. oil industry trade association, based in Washington, D.C. API conducts research and sets technical standards for industry equipment and products from wellhead to retail outlet. It also compiles statistics which are regarded as industry benchmarks.

API gravity:

The American Petroleum Institute scale used to express the specific gravity of oils.

Assay

To test a metal or an oil for purity or quality.

Associated gas:

Natural gas found in association with oil in a reservoir, either dissolved in the oil or as a cap above the oil.

Accumulation:

Quantity of hydrocarbons (oil and natural gas) found in the reservoir rock in an oil or gas field.

Alkylation

A chemical reaction that consists in fixing an alkyl radical onto a molecule.

Appraisal well

A well drilled in order to evaluate the characteristics of a field.

Assisted recovery

Set of techniques for increasing the productivity of a field.

**Associated gas**

Gases present in the reservoir rock

Aromatics

Class of hydrocarbons that have at least one benzene ring as part of their structure. Generally describes benzene and benzene derivatives.

B**Barge**

A vessel, either motorized or towed, used to carry products in navigable waterways. Inland river barges that carry oil products generally hold 25,000 barrels. Ocean-going barges range in size up to 120,000 barrels.

Barrel of oil

Measurements which equal a barrel of oil include 159 litres, 0.159 cubic metres, 35 Imperial gallons, 42 U.S. gallons.

Barrel of oil equivalent (boe)

A term frequently used to measure oil and gas on a comparative basis. In Canada, 10 mcf of natural gas is equivalent to one barrel of oil.

Barrel of oil per day (bpd)

The number of barrels of oil produced from a well over a 24 hour period, normally an average figure from a longer period of time.

Ballast tank

A tank intended to be filled with seawater to keep floating equipment stable.

Barrel

Unit of volume of crude oil (approximately 159 liters) in use in the oil industry, especially in the USA and the UK. Dates back to the days of sailing ships, when oil was shipped in casks.

Batch

A measured amount in which crude oil and refined product shipments are sent through a pipeline.

Batching Sequence

The order in which shipments are sent through a pipeline.

Battery

Facility that stores and/or processes crude oil.

Bcf

Billion cubic feet.

**B/D**

Barrels per Day. Usually used to quantify a refiner's output capacity or an oilfield's rate of flow.

Bitumen

Heavy oil or petroleum in semi-solid or solid forms. Bitumen generally has a density of less than 10 degrees API.

Block

The subdivision of exploration and production acreage.

Blowouts

Uncontrolled releases of fluids, solids, or gases.

British thermal unit (BTU)

The amount of heat required to increase the temperature of a pound of water 1o Fahrenheit. A Btu is used as a common measure of heating value for different fuels. Prices of different fuels and their units of measure (dollars per barrel of crude, dollars per ton of coal, cents per gallon of gasoline, cents per thousand cubic feet of natural gas) can be easily compared when expressed as dollars and cents per million BTUs.

Bunker C Fuel Oil (or bunkering fuel)

Fuel used for ships. Generally refers to a No. 6 grade of residual fuel oil with an API gravity about 10.5o.

Bit

Tool used in drilling to break up rock mechanically in order to penetrate the subsoil gradually. The bit will dig a circular hole.

C**Catalysts**

Chemical compounds that facilitate or promote a reaction by their presence or action.

Catalytic cracking

This conversion operation takes place at very high temperatures (500 degrees Celcius) in the presence of a catalyst. It serves to break up large hydrocarbon molecules into smaller ones.

Cat feed

Those products of the crude distillation process which are further refined through catalytic cracking.

Cementing

Injection of cement into the annulus (space) between the casing and the well wall to consolidate the latter and reduced water influxes.

**Christmas tree**

Another name for a wellhead.

Centrifugal pump

A rotating pump, used for pushing large volumes of oil and gas through pipelines.

CF/D

Cubic feet per day. Usually used to quantify the rate of flow of a gas well or pipeline.

Christmas tree

The arrangement of pipes and valves at the wellhead which controls the flow of oil and gas and prevents blowouts.

Completion

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

Compressor station:

Stations located every 60-80 km along a gas pipeline which recompress gas to ensure an even flow.

Concession

A defined license area granted to a company for the exploration of oil and/or gas under specific terms and conditions for a fixed period of time.

Condensate

Any mixture of relatively light hydrocarbons which remain liquid at normal temperature and pressure. Condensate generally appears when gas is drawn from a well and its temperature and pressure change sufficiently for some of it to become liquid petroleum.

Conventional crude

Liquid petroleum that is capable of flowing naturally without any processing.

Crown lands

Government owned properties.

Crude Oil

A mixture of hydrocarbons that exists as a liquid in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Crude is the raw material which is refined into gasoline, heating oil, jet fuel, propane, petrochemicals, and other products.

Cubic foot

The amount of gas required to fill a volume of one cubic foot.

Cubic feet per day (cf/d)

The number of cubic feet of natural gas produced from a well over a 24 hour period, normally an average figure from a longer period of time. Generally expressed as mcf/d = thousand cubic feet per day, mmcf/d = million cubic feet per day, or bcf = billion cubic feet per day.

**Cushion Gas**

The amount of gas required in a storage pool to maintain sufficient pressure to keep the working gas recoverable.

Casing

Set of steel tubular elements used to line the inner wall of a drill hole, to consolidate it. The casing is secured by cementing the annular space between the hole wall and the casing. Each time a tubing is installed, the well diameter is reduced, so that the tubing in a well forms a telescopic assembly. The tubes have a standard length of nine meters, and are assembled by threaded sleeves.

Coke

A solid material similar to coal that can be produced from processing of heavy oil.

Coking

A refining process by which the denser, heavier products of the distillation process (residuals) are converted to lighter products such as cat feed and naphtha, and petroleum coke, a solid, coal-like fuel. The coking unit, or coker, heats hydrocarbons to near 800 degrees Fahrenheit, at which temperature all the lighter products vaporize and the coke solidifies in a large drum called a coke drum from which it is removed by means of high-pressure jets of water.

Completion (well)

All operations (tubing, installation of valves, wellhead, etc.) to bring a production well into operation.

Conversion

This stage in the refining process consists of breaking up the large molecules into smaller ones in order to produce lighter compounds. Processes involved include catalytic cracking and viscosity reduction (visbreaking).

Cooling tower

A structure which cools heated refining process water by circulating the water through a series of louvers and baffles through which cool air is forced by large fans.

Core-sampling (or coring)

During drilling, cylindrical samples of rock known as "core samples" are removed in order to study the characteristics of the terrain.

Crude oil

A mixture of thousands of chemicals and compounds, primarily hydrocarbons. Crude oil must be broken down into its various components by distillation before these chemicals and compounds can be used as fuels or converted to more valuable products. Crude oil is classified as either sweet crude (sulfur content less than 0.5%) or sour crude, (at least 2.5% sulfur).

Crude unit

The refinery processing unit where initial crude oil distillation takes place. See topping.

Cut

One or more crude oil compounds which vaporize and are extracted within a certain temperature range during the crude distillation process. See distillation curve.



D

Daisy chain

The process by which a cargo of oil or oil products is sold many times before being delivered to the customer.

Density

The gravity of crude oil. Density is measured in kilograms of large, carbon-rich molecules per cubic metre or degrees on the American Petroleum Institute (API) gravity scale.

Derrick

Steel structure mounted over the bore hole to support the drill pipe and other equipment which is lowered and raised during drilling operations.

Diesel Fuel

Distillate fuel oil used in compression-ignition engines. It is similar to home heating oil, but must meet a cetane number specification of 40 or more.

Discovery well

An exploratory well that encounters a previously untapped oil or gas deposit.

Distillate Fuel Oil

Products of refinery distillation sometimes referred to as middle distillates; kerosene, diesel fuel, and home heating oil.

Downstream sector

Refines and markets petroleum including pipeline systems, refineries, gas distribution, and petrochemical companies.

Drilling mud

A mixture of clays, water, and chemicals used in drilling operations to lubricate and cool the drill bit, carry drilling wastes to the surface, prevent the walls of the well from collapsing, and to keep the upward flow of oil or gas under control.

Drill string

Steel pipes roughly 10m long joined together to form a pipe from the drill bit to the drilling platform. It is rotated during drilling and is also the conduit for the drilling mud.

Dry gas

Gas containing no water vapor, same as lean gas.

Dry hole

An unsuccessful well, drilled without finding commercial quantities of oil or gas.

Derrick

Metal tower erected vertically above a well for the purpose of lifting and lowering tubes and tools into the well.

**Derrick-man**

Member of the drilling crew who works at the top of the derrick.

Desalting

Removal of salt from crude oil. Desalting is preferably performed prior to commercialization of the crude, and must be performed prior to refining.

Development

All operations and measures undertaken to bring a reservoir into production.

Diamond-tipped (tools)

Drill-bit or other tool whose cutting-edge has been hardened with manmade diamonds.

Directional drilling

The most common drilling direction is vertical, but there may be various reasons for drilling obliquely.

Distillation

The first step in the refining process. During distillation, crude oil is heated in the base of a distillation tower. As the temperature increases, the crude's various compounds vaporize in succession at their various boiling points, then rise to prescribed levels within the tower according to their densities, condense in distillation trays, and are drawn off individually for further refining. Distillation is also used at other points in the refining process to remove impurities.

Distillation curve

A graph which plots the percentage (by volume) of a given grade of crude which boils off as a function of temperature. Since the boiling points of the various crude cuts are constant, the distillation curve shows the percentage of each compound in a given grade or batch of crude.

Distillation tower

A tall column-like vessel in which crude oil is heated and its vaporized components distilled by means of distillation trays. Also used to remove impurities added during the refining process.

Drill

Making a hole by means of whatever mechanism.

Drill string

Set of drilling tools, comprising pipes connected to each other, the bit, and the different tools. In drilling, the drill string is rotated by the rotary table.

Drilling mud

Mixture of water and special additives circulating within the well for the purpose of cooling the drill-bit, removing rock cuttings and transporting them back up to the surface, preventing the well wall from caving in, maintaining sufficient pressure at the well bottom to avoid hydrocarbon blowout.



Drum cycle

In the petroleum coking process, the length of time it takes to heat the coke drum sufficiently to safely introduce hot hydrocarbons, transform the raw material into solid petroleum coke, and remove or cut the solid coke from the drum before repeating the process. The shorter the drum cycle, the more economical the coke manufacturing process.

E

Enhanced oil recovery (EOR)

The recovery of oil from a reservoir other than by the use of natural reservoir pressure. This can involve increasing the pressure (secondary recovery) or heating or increasing the pore size of the reservoir (tertiary recovery).

Exploratory well

A well in an area where petroleum has not been previously found or one targeted for formations above or below known reservoirs.

Echosounder

Device used to calculate the distance of an obstacle based on the time a soundwave takes to travel to the obstacle and back.

Effluent

Mixture of oil, gas, water and sand discharged from a well.

Electron

An elementary particle carrying a negative electric charge. An electron's mass is negligible compared with that of protons and neutrons.

Enhanced recovery

Recovery techniques designed to extract more hydrocarbons from a reservoir by physical, chemical or thermal means.

Exchanger (Heat exchanger)

Any device used to transfer heat from one process liquid to another. In one kind of exchanger, process hydrocarbons are circulated through tubes surrounded by cooling air or water.

Exploration

Any method used to discover new oil and gas fields.

Exploration well

Well drilled to find an oil field.

F

Farm-in

An outside party paying a land owner all or a percentage of the drilling costs of a well in order to obtain a working interest in the land or well.

**Farm-out**

The land owner gives a percentage of his land or a portion of his working interest in a well in order to allow an outside party to drill or explore on his property. This generally reduces risk as capital is provided by the company farming-in.

Fault

A geological structure consisting of a fracture in the rock along which there has been an observable amount of displacement.

Feed

Abr. Front End Engineering & Design

Feedstock

The supply of crude oil, natural gas liquids, or natural gas to a refinery or petrochemical plant or the supply of some refined fraction of intermediate product to some other manufacturing process.

Field

The surface area above a petroleum formation.

Flaring

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

Fractionation

The process whereby saturated hydrocarbons from natural gas are separated into distinct parts or "fractions" such as propane, butane, ethane, etc.

Fuel Oil

Refined petroleum products used as a fuel for home heating and industrial and utility boilers. Fuel oil is divided into two broad categories, distillate fuel oil, also known as No. 2 fuel, gasoil, or diesel fuel; and residual fuel oil, also known as No. 6 fuel, or outside the United States, just as fuel oil. No. 2 fuel is a light oil used for home heating, in compression ignition engines, and in light industrial applications. No. 6 oil is a heavy fuel used in large commercial, industrial, and electric utility boilers.

Field

Set of porous rocks containing hydrocarbons.

Flare bleeder

Device for evacuating and burning unused gases.

Fractionation

The separation of crude oil into its more valuable and usable components through distillation.

G**Gas cap**

In a field containing both gas and oil, some gas will often collect at the top of the reservoir in a single deposit known as a gas cap.

**Gas field**

A field or group of reservoirs of hydrocarbons containing natural gas but insignificant quantities of oil.

Gasoline, Straight-Run

Also known as raw gasoline. Gasoline which is obtained directly from crude oil by fractional distillation. Straight-run gasoline generally must be upgraded to meet current motor fuel specifications.

Gathering lines

Pipelines that move petroleum from wells to processing or transmission facilities.

Geophones

Sensors used in seismic surveys capable of detecting the velocity of energy waves.

Gas cap

Upper portion of reservoir rock of a gas-containing field. The gas extracted during oil production is sometimes injected into the gas cap in order to boost hydrocarbon recovery.

Geophone

Acoustical sensor for collecting reflected waves, in seismic exploration.

Gravity

a property of a material that compares its weight to its volume.

H**Heating Oil**

No. 2 fuel oil, a distillate fuel oil used either for domestic heating or in moderate capacity commercial-industrial burners.

Heavy crude

Oil with a gravity below 28 degrees API. Recovery generally involves an application of heat and steam. Canadian pipelines generally require oil to have a gravity of at least 21.2 degrees API. Heavier crudes must be blended with condensate or NGLs to be shipped by pipeline.

Hydrocarbon

Any compound or mix of compounds, solid, liquid or gas, comprised of carbon and hydrogen (e.g., coal, crude oil, and natural gas).

Horizontal drilling

Extreme form of directional drilling, in which the hole is drilled along a horizontal stratum.

Hydrocarbon

Chemical compound formed only of carbon and hydrogen.

**Hydrophone**

Acoustical sensor used for collecting reflected waves in seismic exploration at sea.

I**Independent**

Term generally applies to a non-integrated oil or natural gas company, usually active in only one or two sectors of the industry. An independent marketer buys petroleum products from major or independent refiners and resells them under his own brand name or buys natural gas from producers and resells it. There are also independents which are active exclusively either in oil or gas production or refining.

Infill drilling

Drilling more wells into the same pool so that oil does not have to travel as far through the rock.

Injection well

A well used for injecting fluids into a formation in an attempt to increase recovery efficiency.

Injection well

Well used to inject water or gas, in order to maintain a field at pressure or bring it back under pressure.

J**Jet Fuel**

Kerosene-type; high-quality kerosene product used primarily as fuel for commercial turbojet and turboprop aircraft engines.

Joint venture

An investment undertaken by a consortium, usually with one member acting as the operator.

Jacket

Steel structure placed on the seabed with a deck supporting drilling and/or production facilities.

Jet fuel

A fuel used in aircraft. Jet fuel is obtained by distillation and sweetening. The latter removes all trace of mercaptans (very light molecules containing sulfur atoms).

Jet fuel is a white product, so-called because it is transparent.

K**Kick-off (deflected) well**

Well whose orientation and inclination are determined to reach an area not directly below the well.



L

Light crude

Oil with a gravity of 28 degrees API or higher. High-quality light crude has a gravity of 40 degrees or higher.

Liquefied natural gas (LNG)

Natural gas that has been liquified for ease of transport by cooling the gas to -162°C. Natural gas has 600 times the volume of LNG.

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.

Loading flange

Installations required to deliver crude oil to a refinery.

Lubes (Lubricants): Denser, more viscous refined products such as motor oil, bearing grease or machine oil.

LOI

Abr. Letter of Intent

M

Major

A term broadly applied to those multinational oil companies which by virtue of size, age, or degree of integration are among the preeminent companies in the international petroleum industry.

Market capitalization

Calculated by multiplying the number of outstanding shares by the current stock price. This represents the market's valuation of the company at that specific time.

Maximum rate limit (MRL)

The maximum rate at which a well is legally permitted to produce, imposed by the Alberta Energy and Utilities Board.

Maintenance

Routine repairs needed throughout the life of a well, usually required more for oil than for gas wells.

Mcf

Thousand cubic feet.

Mercaptans

Strong smelling compounds of carbon, hydrogen, and sulphur found in gas and oil. Sometimes added to natural gas for safety reasons.

**Methane**

The principal constituent of natural gas.

Middle Distillate

Hydrocarbons that are in the so-called "middle boiling range" of refinery distillation. Examples are heating oil, diesel fuels, and kerosene.

MMBtu

One million British thermal units, one dekatherm. Approximately equal to a thousand cubic feet (Mcf) of natural gas.

Manifold

Set of pipes and valves directing the effluent or production into facilities.

Mantle

Impermeable stratum overlaying a reservoir which prevents the hydrocarbons contained in it from migrating to other rocks.

Mantle (earth's)

The part of the earth between the crust and the central core.

Mercaptan

Molecules containing sulfur, with a low molecular weight and therefore very light.

Mother (or source) rock

Rock in which hydrocarbons are formed.

MOU

Abr. Memorandum of Understanding

MTBE: Methyl tertiary butyl ethane is a gasoline additive which increases octane rating.

MTBF

Mean time between failures is the average service life of a piece of process equipment, particularly for rotating equipment. A refinery's MTBF is one indicator of the effectiveness of its maintenance program.

N**Naphtha**

A volatile, colorless product of petroleum distillation. Used primarily as a paint solvent, cleaning fluid, and blendstock in gasoline production.

Naphthenes

One of the three basic hydrocarbon classifications found naturally in crude oil. Naphthenes are widely used as petrochemical feedstocks.

**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 all liquid products separated from natural gas in a gas processing plant. NGLs include propane, butane, ethane, and natural gasoline.

Net Asset Value per Share (NAVPS)

Is the estimated worth of the company based on the current market value of all its assets less liabilities. Calculated by taking the present value of the company's reserves, subtracting long-term debt, and adding working capital. Usually discounted by 10-15%.

Netback

The amount of money received per barrel of oil equivalent produced after subtracting operating costs, royalties, and general and administrative costs.

Net debt

Long-term debt plus working capital.

Non-associated Gas

Natural gas in a reservoir which contains no crude oil.

Naphta

An oil distillate. Naphta is an intermediate product between gasoline and kerosene. It is known as a light product because of the low molecular weight of the hydrocarbons making it up.

O**Oil in place**

The estimation of the real amount of oil in a reservoir.

OPEC

Organization of Petroleum Exporting Countries.

Operator

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

Octane number

In a gasoline-powered engine, combustion is triggered by a sparkplug. Given the high pressure and temperatures prevailing inside the combustion chamber, it is vital to prevent the fuel from igniting spontaneously. The octane number measures a fuel's resistance to spontaneous ignition. The higher the octane number, the greater fuel's resistance to spontaneous ignition.

Offshore

Designates oil fields and facilities constructed at sea.

**Oil-bearing reservoir**

Continuous volume of rock containing voids, pores, or a network of cracks, and in which fluids (hydrocarbons, water, and inert gases) can circulate.

P**Permeability**

The capacity of a reservoir rock to transmit fluids.

Petrochemical

An intermediate chemical derived from petroleum, hydrocarbon liquids, or natural gas, such as ethylene, propylene, benzene, toluene, and xylene.

Petroleum

A natural mixture of hydrocarbons in gaseous, liquid, or solid form.

Pinnacle reef

A conical formation where hydrocarbons may be trapped.

Pipeline

A pipe through which oil or natural gas is pumped between two points, either offshore or onshore.

Pool

A natural underground reservoir that either contains or appears to contain petroleum.

Porosity

The open space within a rock, similar to a sponge.

Possible reserves

An estimate of possible oil and/or gas reserves based on geological and engineering data from undrilled or untested areas.

Probable reserves

An estimate of oil and/or gas reserves based on penetrated structures, but needing more advanced confirmation to be classified as proven reserves.

Processing

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

Proven reserves

The quantity of oil and gas estimated to be recoverable from known fields under existing economic and operating conditions. Determined on the basis of drilling results, production, and historical trends.

Petrochemicals

Chemicals produced from petroleum. They are often manufactured as part of the refining process.

**Petroleum**

From the Latin *petra oleum*, meaning "stone oil", an inflammable oily liquid varying in color from yellow to black, consisting of widely varying hydrocarbons, found in sedimentary strata of the earth's crust.

Platform

Set of facilities rising above the sea, used to operate offshore fields.

Porosity

Ratio of the volume of interstices of a material to the volume of its mass. In oil fields, the oil and gas are contained in pores in the rock.

Production sharing agreement

Contract by which the production of a field is shared between the host government and the oil company operating the field. The company is paid in the form of cost oil, to cover the exploration and development expenses borne by it alone, and profit oil, which represents its profit on the venture.

Production well

Well used when producing oil.

Prospect

Underground area in which geologists think there is a chance of finding oil.

R**Raw natural gas**

Natural gas containing impurities and unwanted substances that have to be removed.

Recoverable reserves

The proportion of hydrocarbons that can be recovered from a reservoir using existing techniques.

Refinery

A complex of facilities where crude oil is separated into light or heavy fractions which are then converted into useable products.

Reserve life index

The number of years it would take to deplete proven reserves at the current production rate.

Reserve replacement ratio

The quantity of added reserves for every barrel of oil equivalent produced.

Reservoir

Porous permeable rock containing petroleum.

**Rich gas**

Gas which is predominately methane but with a relatively high proportion of other hydrocarbons.

Royalty holiday

The Alberta Energy Commission grants royalty free wells in certain situations. For instance, the first 70,000 boe produced from a horizontal well are generally royalty free.

Reboiler

A special kind of heat exchanger used to put heat into a distillation column.

Refinery

Plant where crude oil is separated and transformed into marketable products.

Reforming

A refining process wherein short-chain molecules in certain crude distillation products are chemically recombined (reformed) by means of heat, pressure, and usually, catalytic reaction to form higher-value long-chain-molecule compounds.

Reserves (of a field)

Volume of oil trapped in a rock.

Reservoir characteristics

All of the features that serve to characterize the hydrocarbons (viscosity, density, etc.) and the rock containing them (porosity, permeability, etc.).

Rotary

Drilling method consisting of drilling rocks with bits turning about their axis. The rocky debris is continuously evacuated to the surface by a flow of mud under pressure.

Rotary table

Circular plate in a drilling rig that transmits the rotational motion to the drill pipes through the drive pipe.

S**Seismic**

Either two-dimensional or three-dimensional, computer assisted processing of sedimentary structures, assist in planning drilling programs.

Solution gas

Natural gas which is dissolved in the crude oil within the reservoir.

Sour or Sweet Crude

Industry terms which denote the relative degree of a given crude oil's sulfur content. Sour crude refers to those crudes with a comparatively high sulfur content, 0.5% by weight and above; sweet refers to those crudes with sulfur content of less than 0.5%.

**Sour gas**

Contain large amounts of hydrogen sulphide or sulphur. In order to become sweet gas, the sulphur must be removed.

Spot market

An international market in which oil or oil products are traded for immediate delivery at the current price.

Spud

The commencement of drilling operations.

Sweet oil/gas

Petroleum which contains little or no hydrogen sulphate and as a result requires little processing.

Syndine

A fold in layered rock in the form of a dip or bowl.

Sample

Small quantity of rock removed, often by coring, for analysis.

Sediments

Deposits of particles of variable sizes, coming either from the erosion of old rocks or from activities (shellfish shells or other). With time, the sediments become sedimentary rock.

Sedimentary basin

Terrain consisting of superposed layers of rock formed from the deposition of sediment over vast tracts of ocean or lake beds, over the course of geological eras.

Sedimentary rock

Rock made up of aggregated sediments.

Seismic analysis

The seismic principle is to generate elastic waves methodically and study their propagation through the subsoil. The seismic waves are refracted and reflected as they travel through the various rock strata, and are detected at the ground or sea surface by appropriately placed geophones. The seismic records are interpreted to generate information concerning the shape of the underground strata in the explored region.

Self-raising platform

An offshore drilling platform fitted with large buoyancy tanks which are filled with seawater to keep the rig stable in the sea swell.

Separation

The first stage in refining, consisting in separating the different hydrocarbons present in the crude oil depending on their respective boiling ranges. This process takes place in a distillation column.

**Separator**

Apparatus that separates oil, gases, and water contained in the effluent at the exit from a production well, by making use of their relative densities.

Slot

Element of a drill shirttail for guiding the drill tube.

Sounding well

Hole for obtaining data concerning the characteristics of a field.

Sour crude: Crude oil containing a substantial amount of sulfur.

Strata

Layers of rock making up a terrain.

Stratum of a terrain

Mineral deposits in superposed layers.

Stripping

A separation process that consists in injecting water steam into the distillation residue in order to recover the lightest molecules.

Subsoil: Part of the earth's crust located below the surface.

T**Tar sands**

Mixture of sand, water, and heavy hydrocarbons.

Terminal

An onshore transit facility that receives and stores crude oil and products from offshore production facilities via pipeline and/or tankers.

Transmission pipeline

A network of pipelines distributing natural gas from an onshore station, via compressor stations, to storage centres or distribution points.

TAME

Tertiary amyl methyl ethane is a gasoline additive which increases octane rating.

Topping (Atmospheric distillation)

The initial transformation of the crude oil at a refinery. The topper heats crude oil at atmospheric pressure to accomplish the first rough distillation cut. The lighter products produced in this process are further refined in the catalytic cracking unit or the reforming unit. Heavier products which cannot be vaporized and separated in this process are distilled still further in the vacuum distillation unit or the coker.

**Tray**

Flat, perforated shelves at prescribed levels in a distillation tower, which allow specific vaporized crude oil components to pass through and then condense on their surfaces (after contacting domes called bubble caps above the perforations) before being drawn off for further distillation.

Treatment

Set of procedures for separating the various components of the effluent and obtaining crude oil.

Tubing

Set of steel tubular elements in the center of the well, by which the effluent is evacuated to the surface.

Turnaround

Scheduled large-scale maintenance activity wherein an entire process unit is taken offstream for an extended period for comprehensive revamp and renewal.

U**Underbalanced drilling**

Occurs when the operator of the site uses specialized mud or gas while drilling to allow for formation fluids to rise to the surface and thus prevent damage to the prospective formation.

Unitization

Owners of adjoining properties pool reserves together to form a single producing unit in which each has an interest.

Upstream industry

Produces petroleum, also referred to as upstream sector; namely, exploration and development companies, seismic, and drilling contractors, service rig operators, engineering firms, etc.

V**Viscosity**

The resistance to flow or "stickiness" of a fluid.

Vacuum distillation

Process by which heavier cuts of crude not vaporized in the topping process are heated in a vacuum to accomplish their fractionation.

Vent

Gas safety exhausting system to avoid dangerous excess pressures building up.

Visbreaking

This is a thermal cracking process. Like catalytic cracking, it breaks up large molecules into smaller ones. It is applied to the residue of vacuum distillation as part of the overall conversion process.

**Viscosity**

The ability of a liquid to flow at a given temperature.

Volatility

The ability of a liquid to evaporate.

W**Wellhead**

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

Wet Barrel

A physical barrel of crude oil or refined product as opposed to a "paper barrel."

Wet Gas

Natural gas containing condensable hydrocarbons.

Wildcat

A well drilled in an unexplored area.

Working capital

Current assets minus current liabilities, shows a company's ability to meet its short-term obligations.

Workovers:

Major repairs or modifications which restore or enhance production from a well.

Well

Hole drilled underground for oil exploration and operation. By extension, any apparatus used for this purpose.

Wellhead

All connections, valves, nozzles, pressure gages, thermometers, and so forth, installed at the exit from a production well.

Well-logging

Electrical recording of physical characteristics of rocks traversed by a well.

White product

A term used to refer the lightest products resulting from the refining process, because of their transparent appearance.