

## OIL RELATED TERMS AND MEASUREMENTS

Barrel Volume measurement. One Barrel=159 litres.

BCBarrel of Condensate **RCF** Billion Cubic Feet

**BCPD** Barrels of Condensate Per Day

BO Barrel of Oil Volume measurement. One Barrel=159 litres.

Barrels of Oil Equivalents Natural gas converted to barrels of oil equivalents, 6 mcf=1boe. The conversion rate is BOE

approximative since the relation may vary.

**BOPD** Barrels of Oil Per Day

CF Cubic Feet Volume measurement. One Cubic Foot=0.028m3

**CFPD** Cubic Feet Per Day Thousand Barrels MBO

**MBOE** Thousand Barrels of Oil Equivalents

**MBOEPD** Thousand Barrels of Oil Equivalents Per Day

**MBOPD** Thousand Barrels of Oil Per Day

**MCF** Thousand Cubic Feet

**MCFPD** Thousand Cubic Feet Per Day

MMBO Million Barrels

**MMBOE** Million Barrels of Oil Equivalent

**MMCF** Million Cubic Feet

**MMCFPD** Million Cubic Feet Per Day

MMSCFPD Million Standard Cubic Feet Per Day (refers to gas or residual gas production).

OOIP Original-Oil-In-Place, expressing the total volume of oil originally in the reservoir in stock tank barrels (STB)

**PPG** Pounds per gallon (lb/GAL). A unit indicating specific weight (weight density)

**PSIG** Pounds per square inch (gauge)

**STB** A barrel volume of a fluid at standard (stock tank) conditions

**TCF** Trillion Cubic Feet

**BLOCK** 

## OIL RELATED TERMS AND MEASUREMENTS

Injection of various acids into perforations, fractures, and reservoir rock permeability to remove contaminants and the **ACIDIZING** 

effect of wellbore damage caused by drilling and completion operations or to increase permeability beyond the original

values which existed prior to disturbing the reservoir by drilling.

ANTICLINE The peak or high elevation of folded, layered sedimentary rocks resulting from geologic activity (folds concave downward)

Density measure in degrees of a liquid hydrocarbon (crude oil of condensate) which is inversely proportional to its specific API

gravity.i.e. the higher the API Gravity. The lower the Specific Gravity and vice versa.

Wells drilled after hydrocarbon presence has been identified with the drilling of the wildcat well, to define the reservoir or APPRAISAL WELL

delineate the geology (also referred to as delineation wells)

ARTIFICIAL LIFT A system of enhancing the flow rate of hydrocarbons up the production tubing by reducing the well-bore pressure

ASSOCIATED GAS The hydrocarbon gas produced at the surface with the hydrocarbon liquid; also referred to as solution gas or dissolved gas.

**BARITE** A mineral ore added to mud to increase its density.

**BASIN** A depression of large size in which sediments have accumulated

**BENTONITE** A clay mineral often used to make drilling mud.

RIT Device used in the drilling operation for fracturing, abrading, or shearing the rock.

Agreement entered into with a host country granting the company the right to explore and produce oil and gas in a

designated area, in return for paying to the government licence fees and royalties on production. (Also referred to as

Concession(s) or Licence(s)).

The result of a loss of control of downhole reservoir fluid pressures, resulting in uncontrolled release of subsurface fluids to **BLOWOUT** 

the surface or, in the case of a downhole blowout, uncontrolled flow between downhole reservoirs.

(Blow Out Prevention) High pressure valve, associated activation and control equipment fitted to the top of the casing to **BOP SYSTEM** prevent blowouts.

**BRENT** The primary crude pricing marker for UK and Europe.

Steel pipe run into the wellbore after drilling, to serve various functions such as isolation of the wellbore from downhole

**CASING** pressures, contaminating or undesirable fluids, zones of lost circulation, regions of wellbore washout, and to provide surface protection from downhole contaminants. In general, the casing provides control of the downhole environment.

The flow orifice in the Christmas tree (wellhead) or BOP stack by which volume flow rate and flowing bottomhole pressure **CHOKE** 

is controlled by surface manipulation of the choke size. The choke may be a variable or fixed (bean) choke.

A surface flow control system that, as a part of the wellhead, contains the master valve, the choke, and other flow control CHRISTMAS TREE

and access valves relative to the production system for that particular well. A Christmas tree has an ornamentation

appearance of the valves and various plumbing connections and is also referred to as the production tree.

Agreement entered into with a host country granting the company the right to explore and produce oil and gas in a

CONCESSION

designated area, in return for paying to the government licence fees and royalties on production. (Also referred to as

Block(s) or Licence(s)).

**CONDENSATE** Liquid hydrocarbon which is usually in a gas phase at reservoir condition.

Large diameter pipe/casing inserted into the initial drilling hole to stabilise the hole, and to which the BOP stack is CONDUCTOR

attached.

A cylindrical sample of subsurface rock taken during the drilling operation and returned to the surface for analysis in order CORE

to obtain properties of downhole rock and fluid systems.

A share of oil produced used to cover ongoing operations costs and to recover past exploration, appraisal and development COST OIL

expenditures.

**CRETACEOUS** A period in geological history from about 65 to 141 million years ago. **CUTTINGS** Fragments of rock removed from a well during drilling operations.

DARCY A unit used to measure permeability.

DEVELOPMENT

DRILLING RIG

WELLS

DECOMMISSIONING Removal of facilities from depleted oil field.

DERRICK The drilling structure itself, which supports the drilling/hoisting system.

DERRICKMAN The person who is second in command of the drilling crew.

> Wells drilled according to a predetermined pattern to maximize production from the hydrocarbon reservoir, within economic limits, over a reasonable lifetime of production. Drilling is based on the reservoir development plan as prepared from information obtained during various exploration processes such as seismic surveys, geologic analysis, and from drilling the wildcat and appraisal wells. These development wells include not only producing oil and gas wells, but also wells such as gas and water injection wells which may be used to enhance recovery of the hydrocarbon. Within the

development plan, selected producing wells may be converted to injection wells at specified times during the production history of the reservoir.

**DEW POINT** The temperature at which a liquid starts to seperate out of a gas when it is cooled.

DIRECTIONAL A well drilled at an angle from the vertical by deviating the drill bit. Directional wells can be used to drill multiple wells

DRILLING (deviated) from a common drilling pad or to reach a subsurface location beneath land where drilling cannot be done.

DRILLER The person in charge of the crew and who operates the equipment that controls drilling.

High grade steel pipe providing the closed flow system, through which torque is transmitted from the surface to the drill DRILL PIPE collars and therefore to the drill bit for rotation, in conventional rotary drilling. Typical drill pipe joints are 30 ft in length.

The complete drilling system, including the derrick, substructure, engines, pumps, blowout prevention system, drill pipe, drill collar and other necessary accessories for the drilling operation. The drilling rig moves as a complete system from one

well to the next. The only accessories changed will be those for that particular well, such as drill bits and drilling fluid

additives.

DRILLSTRING swivel, and any other components or accessories within the drillstring, such as stabilizers, shock absorbers, jars, reamers,

The drilling system suspended from the hoisting system into the wellbore, including drill bit, drill collars, drill pipe, kelly,

DRY HOLE An exploratory or development well that does not find commercial quantities of hydrocarbons.

DST Drill stem test, open hole or cased hole short term production test of well.

E&A Exploration and appraisal

E&P Exploration and Production ("upstream" sector of the oil and gas industry).

**EPSA Exploration Production Sharing Agreement** 

FSC **Exploration Service Contract** 

**FAULT** A fracture within rock structures where relative motion has occurred across the fracture surface.

FARM IN Where a company joins a joint venture in return for paying for future (and sometimes past) joint venture operations.

FARM OUT A commercial transaction where a company sells a share in a concession in return for some consideration.

**FEED** Front End Engineering and Design

**FPSO** Floating production storage and offloading vessel

A method of stimulating a well by pumping liquid under high pressure into the reservoir to fracture the reservoir rock with FRAC JOB

the aim of improving the well flow rate.

**FSO** Floating storage and offloading vessel

GAS IN PLACE The total volume of gas originally in the reservoir

**GAS LIFT** A technique which increases the rate of flow from a well by injecting natural gas into the liquids in the production tubing.

GAS SATURATION The percentage of the reservoir rock porosity containing hydrcarbon gas at reservoir conditions

The recorder used to indicate arrival of seismic disturbances at a particular location. Geophones are normally used as the

**GEOPHONE** recorders for onshore seismic operations.

GOR Gas Oil Ratio. The number of cubic feet of natural gas produced with each barrel of oil.

A dense viscous oil with a proportion of bitumen, which is difficult to extract with conventional techniques and is more HEAVY OIL

expensive to refine.

**HORIZONTAL** DRILLING

HYDROCARBONS

**HYDROPHONE** 

**TELLURIC** 

Drilling a well that deviates from the vertical and travels horizontally through a prospective reservoir.

Naturally occurring organic substances composed of hydrogen and carbon. They include crude oil, natural gas and natural

gas condensate.

**HSE** Health, Safety and Environment

HYDROCARBON A reservoir rock with hydrocarbon present in the porosity. Hydrocarbon is confined to the reservoir by rock with zero

TRAP permeability, preventing migration from the reservoir rock.

INJECTION WELLS Wells to be used for injection of fluids into reservoir for enhancement of hydrocarbon recovery.

**JACKET** The steel structure of an offshore platform

JACK-UP Moble offshore drilling rig with retractable legs which rest on the seabed when the rig is operational.

The recorder used to monitor time of travel of offshore seismic disturbances.

JOINT VENTURE Group of companies which jointly holds 100% interest in a given concession.

JURASSIC A period in geological history from about 141 to 195 million years ago.

The kelly runs through the kelly bushing which is fitted in the rotary table and provides the means of rotating the drillstring **KELLY BUSHING** 

and hence the drill-bit.

KPI Key Performance Indicator

Agreement entered into with a host country granting the company the right to explore and produce oil and gas in a

LICENCE designated area, in return for paying to the government licence fees and royalties on production. (Also referred to as

Block(s) or Concession(s)).

LNG Liquified natural gas (pure Methane)

The result of surveys which gather information from the wellbore and surrounding formations which typically consist of LOGS

traces and curves. These can be interpreted to give information about oil, gas and water.

LPG Liquified petroleumn gas (mixture of Propane & Butane)

LTI Lost Time Incident

Magnetotelluric (MT) is a geophysical method using electromagnetic waves to measure the resistivities of subsurface rock MAGNETOformations at depths between surface and several kilometres. In complex thrusted areas it complements seismic to produce

an interpretation of the subsurface. Both methods are combined to map drillable prospects.

Liquid drilling fluid circulated down the drill pipe and up the annulus during drilling operations to remove cutting cool and MUD

lubricate the bit and maintain a desired pressure in the well.

**MWD** Measurement Whilst Drilling. A real time log taken from sensors located in the bottom of the drillstring.

NATURAL GAS Hydrocarbon gas

NCS Norwegian Continental Shelf

Natural Gas Liquids. Hydrocarbon liquids consisting predominantly of liquified ethane, propane, butane, pentane, and NGL

pentane plus.

**NYMEX** New York Mercantile Exchange

The percentage of the void space within reservoir rock containing hydrocarbon liquid at reservoir conditions (reservoir **OIL SATURATION** 

fluid pressure and reservoir fluid temperature conditions)

OIL IN PLACE The total volume of oil originally in the reservoir **OPEC** Organization of Petroleum Exporting Countries

**OPERATOR** Member of a joint venture designated to carry out all activities and operations on behalf of of the joint venture.

A cylinder of rubber like material used to hold a tubing string central in the well, seperating and sealing the sections of the **PACKER** 

well above and below the packer.

PAY ZONE The section of the reservoir that contributes to production.

P & A Plugged & Abandonned. A depleted or dry well that has been filled with cement with all surface equipment removed.

The cost-bearing interest arising out of the obligation to bear initial exploration, appraisal and development costs on behalf

PAYING INTEREST of a partner. The difference between the paying interest and the working interest will be recovered out of the partner's share

of oil produced.

The property of a rock which indicates the presence of flow channels within the rock. The greater the permeability, the PERMEABILITY

greater the presence of those flow channels, and the more easily fluid will flow from the rock.

**PETROLEUM** Rock oil or "oil produced from rock" (from Latin)

**POROSITY** The percentage of the total volume (bulk volume) of the rock which is void space

A pressure test run in a well, where flow is initiated followed by a shut-in period where the time rate of pressure increase is

PRESSURE TEST recorded after shut-in. The data are analyzed for determination of various downhole and reservoir properties and

characteristics.

PROFIT OIL The remaining share of oil produced after cost recovery through the cost oil. The profit oil is shared according to the

production sharing agreement and working interests.

Probable reserves are those unproved reserves which analysis of geological and engineering data suggests are more likely **PROBABLE** than not to be recoverable. In this context, when probabilistic methods are used, there should be at least a 50% probability

that the quantities actually recovered will equal or exceed the sum of estimated proved plus probable reserves.

A geographical area which exploration has shown contains sedimentary rocks & structures that may be favourable for the **PROSPECT** 

presence of oil or gas.

Proved reserves are those quantities of petroleum which, by analysis of geological and engineering data, can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known resevoirs and under

current economic conditions, operating methods and governmental regulations. Proved reserves can be categorised as developed or undeveloped. If deterministic methods are used, the term reasonable certainty is intended to express a high

degree of confidence that the quantities will be recovered. If probablistic methods are used, there should be at least a 90%

probability that the quantities actually recovered will equal or exceed the estimates.

**PSA** Production Sharing Agreement **PSC Production Sharing Contract** 

**PROVEN** 

**PVT ANALYSIS** Pressure-volume-temperature analysis of a sample of fluid collected from a subsurface fluid reservoir at the datum depth.

The sedimentary rock within which hydrocarbon can be stored as a result of the presence of porosity and from which RESERVOIR ROCK

hydrocarbon can be produced as the result of the presence of permeability

Rate of penetration during the drilling operation. Usually expressed in fph (feet per hour or ft/hr). ROP

That component in the plane of the drilling rig floor to which the drilling rig power system supplies the necessary power to ROTARY TABLE

impart rotation to the rotary table and therefore to the kelly bushing, kelly and drillstring.

ROUGHNECK A member of the drilling crew who operates equipment.

ROUSTABOUT A member of the drilling crew who helps bring supplies and equipment to the rig.

ROV Remotely operated vehicle

**SEAL** An impermeable rock (usually claystone or shale) which prevents the passage of hydrocarbons. **SEISMIC** A method of geophysical prospecting involving the interaction of sound waves and buried rocks.

SEMI-Floating mobile drilling rig with submerged pontoons to stabilise while operating. Kept in position by anchors or dynamic

**SUBMERSIBLE** positioning.

**SIDETRACK** To deviate from the original direction of a well.

**SOUR** Gas or oil with high sulphur content.

SOURCE ROCK The geological formation in which oil, gas and/or other minerals originate.

SPLID To initiate drilling.

**STRATIGRAPHY** The study of the origin, chronology, composition, and distribution of layered or stratified rocks in the subsurface.

Total Depth (refers to the final depth of a well)

**TOPSIDES** The top part of a platform positioned on top of the jacket

TIGHT HOLE A well whose results are being kept confidential.

**UKCS** United Kingdom Continetal Shelf

A geologic discontinuity over a surface resulting from removal of previously existing rocks by the process of erosion. The UNCONFORMITY

unconformity indicates a discontinuity in the geological time record.

**UPSTREAM** Those operations within the industry to the point where the produced resource is metered into the transportation system.

**INDUSTRY** This includes Exploration and Production.

WATER CUT Water that is produced together with oil.

The percentage of the porosity of the reservoir rock containing water at reservoir conditions (reservoir fluid pressure and reservoir fluid temperature conditions). The water present in the reservoir rock porosity is normally salt water. However, WATER

**SATURATION** since the salt is dissolved within the water, forming a solution. The salt is not considered separately. The expression for the

water saturation is therefore normally actually an expression of salt-water saturation.

The surface equipment attached at the surface to a cemented casing string, to control (within limits) downhole and **WELLHEAD** 

reservoir production properties. The wellhead includes the casingheads, tubing head, and Christmas tree.

Final preparations in preparing the well to fulfill its intended function (eg. producer / water injection / gas injection). Final WELLHEAD completion operations include running casing, attaching wellhead, perforating and any stimulation operations such as

acidising.

WILDCAT WELL The first well to be drilled in a geographic region. The extent of that region will be based on available information.

WORKING Interest retained by the company in a given concession after joint venture or other agreements have been executed and

INTEREST includes interests held by both wholly owned and partially ownded subsidiaries

WORKOVER The re-entry of a well in order to affect a repair or modification.

WTI West Texas Intermediate - the primary crude pricing marker for North America

## **CURRENCY ABBREVIATIONS**

**COMPLETION** 

Million Swedish Kronor MSEK **TSEK** Thousand Swedish Kronor USD US Dollar
CHF Swiss Franc
EUR Euro

GBP British Pound
NOK Norwegian Krone
RUR Russian Rouble

 $\underline{\textbf{print window}} \textbf{-} \underline{\textbf{close window}}$