3 October 2018

Market Abuse Regulation (MAR) Disclosure
Certain information contained in this announcement would have been deemed inside information for the purposes of Article 7 of Regulation (EU) No 596/2014 until the release of this announcement

Union Jack Oil plc

("**Union Jack**" or the "**Company**")

Proposed Farm-in for a 16.667% Interest in the Major West Newton Gas Discovery
Oversubscribed Placing and Subscription to raise £2.25 Million

The Directors of Union Jack Oil plc (AIM: UJO) are pleased to announce that the Company has agreed terms with Rathlin Energy (UK) Limited ("**Rathlin**"), a wholly owned subsidiary of Canadian registered Connaught Oil & Gas Ltd ("**Connaught**"), on a proposed farm-in for a 16.667% licence interest in PEDL183 ("**Proposed Farm-in**"). PEDL183 is located onshore UK in East Yorkshire and within the Western sector of the Southern Zechstein Basin and contains the significant West Newton A-1 gas discovery (Best Estimate Contingent Resource 189 Bcfe or 31.5 MMboe gross), where the drill-ready West Newton conventional appraisal well is planned to be drilled in Q1 2019.

Proposed Farm-in Highlights

- Acquiring a 16.667% interest in the large 176,000 acre PEDL183 licence containing the significant West Newton A-1 UK onshore gas discovery
- Attractive farm-in terms with no cash costs up front with all funding going towards drilling and licence costs
- Best Estimate Contingent Resources of 189 Bcf of gas equivalent or 31.5 million barrels of oil equivalent (gross) assigned to West Newton in a Competent Persons Report
- West Newton A-1 gas discovery is on-trend with the prolific offshore Hewett gas complex
- Proximity to existing gas pipelines and infrastructure
- Drill-ready conventional appraisal well planned to be drilled in Q1 2019 to appraise the gas discovery
- Compelling immediate and future economic value from a development of the gas discovery alone
- Operator's NPV10% of US$247 million and 52.5% ROR for the gas discovery alone
- Attractive acquisition metrics of less than US$0.30 per barrel of oil equivalent for the gas discovery alone
- Considerable upside potential from the lower Cadeby Reef oil exploration target underlying the gas reservoir that will also be drilled with Best Estimate Prospective Resources of 79.1 million boe (gross)
- Further significant upside potential from other numerous prospects and leads
- A successful appraisal well in Q1 2019 is expected to deliver a major onshore gas development

Fundraising and Commercial Partner Highlights

- £2.25 million raised before expenses in an oversubscribed Fundraising to fund the Proposed Farm-in and associated well costs
- Union Jack's Commercial Partner, Humber Oil & Gas Limited ("**Humber**"), has participated on identical terms in the Proposed Farm-in and will result in it also acquiring a 16.667% interest
- Humber director has a beneficial interest in 13% of the pre-placing issued share capital of Union Jack held by G.P. (Jersey) Limited which has increased its shareholding to 15% of the Company's share capital as enlarged by the Fundraising

David Bramhill, Executive Chairman of Union Jack, commented:

"The Proposed Farm-in to PEDL183 containing the material West Newton gas discovery represents a significant project technically and is compelling financially for Union Jack and we are grateful for the continuing support of our existing shareholders and new investors who have participated in this oversubscribed fundraising".

"The funds raised will allow us to acquire a 16.667% interest in PEDL183 on attractive farm-in terms, and progress the drilling of the material West Newton conventional appraisal well, where success is expected to deliver a significant onshore gas development going forward and be transformational for Union Jack."

"We look forward to working with Rathlin and Humber, drilling the West Newton conventional appraisal well to firm up the project's significant potential and, upon a successful appraisal well, progress to a field development plan. Union Jack will book 5.3 million barrels of oil equivalent Contingent Resources to its existing reserve and resource portfolio on acquisition and once a field development plan is in place, West Newton's Contingent Resources can be converted to Reserves."

"Given our ongoing commitment to develop the Wressle oil discovery, and plans to commence drilling of the material Biscathorpe oil appraisal well during Q4 2018, the Proposed Farm-in and drilling of West Newton in Q1 2019 puts Union Jack in an even stronger position to deliver growth in reserves, production and asset value while adhering to our principles of strict financial and technical discipline."

Frazer Lang, Director of Humber and Union Jack's Commercial Partner, commented:

"PEDL183 is one of the largest onshore licences within the UK and we are delighted to be investing in parallel in this project alongside our Commercial Partner, Union Jack.

"The conventional West Newton appraisal well is planned to be drilled in Q1 2019 and, if successful, the effect will be transformational for both Union Jack and Humber.

"As Union Jack's Commercial Partner, I feel extremely positive about its future and I am also delighted to be beneficially interested in an increased 15% strategic equity investment in the enlarged issued share capital of Union Jack."

The Placing and Subscription

The Company has raised £2.25 million before expenses by way of a placing and subscription of 2,647,058,823 new ordinary shares of 0.025p each ("**New Ordinary Shares**") at a price of 0.085p per New Ordinary Share (the "**Fundraising**"). The placing comprises 2,474,117,652 New Ordinary Shares ("**Placing**") and the subscription of 172,941,171 New Ordinary Shares ("**Subscription**"). SP Angel Corporate Finance LLP acted as sole broker on the Placing.

Further information on PEDL183 and the Proposed Farm-in

Pursuant to the Proposed Farm-in, UJO has entered into a Heads of Agreement ("**HOA**") with Connaught, a private company incorporated in Canada and its wholly-owned subsidiary Rathlin, a private company incorporated in England and Wales whom are the Operator of PEDL183 ("**Operator**").

Union Jack will acquire a 16.667% interest in PEDL183 by paying 25% of the West Newton appraisal well cost, expected to be circa £4.6 million gross.

The transaction is subject to contract and regulatory approvals. The Company is not required to make any immediate up-front cash payment.

PEDL183 is located onshore UK in East Yorkshire and within the Western sector of the Southern Zechstein Basin and contains the major West Newton gas discovery and numerous other prospects and leads.

The West Newton gas discovery is on-trend with the prolific Hewett gasfield complex which had Original Gas in Place of 419 Bcf. Regionally, West Newton and Hewett are located in the Southern Permian Basin which contains approximately 24 Tcf of gas and 250 MMbbls of oil combined in production areas in Poland, Germany and the Netherlands.

The West Newton conventional appraisal well is defined from 3 Component 3D seismic. The West Newton conventional appraisal well is planned to be drilled in Q1 2019.

The West Newton A-1 gas discovery well was drilled and logged in 2014. Best Estimate Contingent resources are 189 Bcf of gas equivalent ("**Bcfe**") or 31.5 million barrels of oil equivalent ("**boe**") (gross). Reflecting its status as an existing gas discovery, the West Newton conventional appraisal well has a combined geological and commercial Probability of Success of 60%.

The Operator's estimated unrisked project economic evaluation indicates NPV10% before tax of US$247 million or $7.84 per boe and yields a 52.5% rate of return. Based on Union Jack's share of the drilling cost and the Operator's NPV10%, Union Jack is acquiring an interest in a gas discovery with Contingent Resources for less than $0.30 per boe.

Cadeby Reef Oil and Other Prospects

The Operator has identified a significant oil exploration target in the Cadeby Reef formation located below the existing discovered gas Contingent Resources. As part of the proposed West Newton appraisal well, the Cadeby Reef oil exploration target will also be drilled as a secondary target. The Cadeby Reef has Best

Estimate Prospective Resources of 79.1 million boe (gross). The Cadeby Reef oil prospect has an estimated geological Chance of Success of 26%.

The Operator's estimated unrisked project economic evaluation indicates NPV10% before tax of US$850 million or US$10.75 per boe and yields a 104.8% rate of return. Based on Union Jack's share of the drilling cost and the Operator's estimated NPV10%, Union Jack is acquiring an interest in both a material gas discovery with Contingent Resources and an attractive oil target with Prospective Resources for a combined $0.08 per boe.

In addition, the Operator has also mapped a number of additional attractive prospects and leads on the licence that would add to the significant Prospective Resources mentioned previously.

Deloitte CPR

A Competent Person's Report dated 25 July 2017 was prepared for Connaught by Deloitte LLP, an independent petroleum engineering firm, that conforms to SPE-PRMS guidelines ("**Deloitte CPR**"). The Deloitte CPR incorporates data from a proprietary three component 3D seismic survey, acquired in 2014 following the drilling of the West Newton discovery well, and Deloitte has assigned Contingent Resources to the West Newton discovery.

In this announcement, all volumetric data disclosed under the Contingent Resource and Prospective Resource categories in relation to the West Newton gas discovery and PEDL183 have all been sourced from the Deloitte CPR.

The Executive Summary extracted from the Deloitte CPR will be available on the Union Jack website at www.unionjackoil.com

A glossary of technical terms is attached to this announcement.

Proposed West Newton Appraisal Well

The proposed West Newton appraisal well will involve conventional drilling to appraise the West Newton A-1 gas discovery within a Permian age Carbonate reservoir and a deeper secondary oil target and, for clarity, the operations at the site will not either now or in the future involve the process of hydraulic "fracking" for shale gas or shale-oil.

Commercial Partner Participation

Union Jack has an established relationship with Humber which forms the basis of an ongoing Commercial Partnership whereby both parties seek to co-invest in UK onshore hydrocarbon opportunities. The first such commercial collaboration was the acquisition of a combined 20% economic interest in PEDL253 containing the Biscathorpe-1 oil discovery where a conventional appraisal well Biscathorpe-2 is planned to be drilled Q4 2018. Humber's sole director, Frazer Lang, is also beneficially interested in 754,482,736 Ordinary Shares of the Company held by G.P. (Jersey) Limited representing 13% of the issued ordinary shares prior to the Fundraising.

The second such significant commercial collaboration between Union Jack and Humber is the Proposed Farm-in for a combined 33.3% economic interest in PEDL183, where Humber has also entered into a HOA on identical terms to that of Union Jack that will result in each of Union Jack and Humber acquiring a 16.667% interest.

In addition to the commercial collaboration between Humber and Union Jack, G.P. (Jersey) Limited has also acquired a further 513,123,802 New Ordinary Shares in the Fundraising and will hold in aggregate 1,267,606,538 Ordinary Shares representing a 15% interest in the Company's share capital as enlarged by the Fundraising.

Details of the Director Subscriptions

Joseph O'Farrell and Raymond Godson intend, following this announcement, to subscribe for a total of 47,058,822 New Ordinary Shares at a price of 0.085p per share ("**Director Subscriptions**").

Of this, Joseph O'Farrell, Executive Director of Union Jack, intends to subscribe £30,000 for 35,294,117 New Ordinary Shares, following which he will have a beneficial interest in 212,987,709 Ordinary Shares, representing approximately 2.52% in the Company's share capital as enlarged by the Fundraising.

Raymond Godson, Non-Executive Director of Union Jack, intends to subscribe £10,000 for 11,764,705 New Ordinary Shares, following which he will have a beneficial interest in 42,529,411 Ordinary Shares, representing approximately 0.05% in the Company's share capital as enlarged by the Fundraising.

Use of Proceeds

The net proceeds from the Fundraising will be used to fund the Company's drilling obligation on the West Newton conventional appraisal well in Q1 2019.

Fundraising and Admission

Completion of the Fundraising is conditional, inter alia, upon admission of the New Ordinary Shares to trading on AIM.

The New Ordinary Shares will rank *pari passu* in all respects with the existing ordinary shares. Application has been made to the London Stock Exchange for the New Ordinary Shares to be admitted to trading on AIM and admission is expected to take place on or around 8 October 2018.

Total Voting Rights

Following admission, the Company's share capital and total voting rights will comprise 8,450,710,254 Ordinary Shares. The Company does not hold any shares in treasury. Consequently, 8,450,710,254 is the figure which may be used by shareholders as the denominator for the calculation by which they will determine if they are required to notify their interest in, or a change to their interest in, the Company under the FCA's Disclosure and Transparency Rules.

Related Party Transactions

Humber is a substantial shareholder of the Company, and Joseph O'Farrell and Raymond Godson are directors of the Company. Therefore Humber, Joseph O'Farrell and Raymond Godson are related parties to Union Jack as defined in the AIM Rules for Companies. Humber's participation in the Fundraising, and the Director Subscriptions, are related party transactions for the purposes of Rule 13 the AIM Rules ("**Related Party Transactions**").

David Bramhill and Graham Bull, being the independent Directors for the purposes of the Related Party Transactions consider, having consulted with the Company's nominated adviser, SP Angel Corporate Finance LLP, that the terms and conditions of Humber's participation in the Placing and the Director Subscriptions are fair and reasonable insofar as the shareholders of the Company are concerned.

Presentation

Further details on PEDL183 and the West Newton gas discovery can be found in the "Rathlin Opportunity" presentation that is available on the Union Jack website at www.unionjackoil.com.

Competent Person's Statement

In accordance with the "AIM Rules - Note for Mining and Oil and Gas Companies", the information contained within the announcement has been reviewed and signed off by Graham Bull, Non-Executive Director, who has over 46 years of international oil and gas industry exploration experience.

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Glossary of Oil and Gas Terms

(Extract from the Deloitte CPR)

The following glossary of terms is presented to assist the reader in understanding technical terms with which they may not be familiar. The glossary is intended to be general and not all terms may be present within this report. Definitions are from the 2011 SPE-PRMS guidelines.

1c	Denotes low estimate scenario of Contingent Resources.
2C	Denotes low estimate scenario of Contingent Resources.
3C	Denotes high estimate scenario of Contingent Resources. Accumulation
	An individual body of naturally occurring petroleum in a reservoir.
Aggregation	The process of summing reservoir (or project) level estimates of resource quantities to higher levels or combinations such as field, country, or company totals. Arithmetic summation of incremental categories may yield different results from probabilistic aggregation of distributions.
Approved for Development	All necessary approvals have been obtained; capital funds have been committeed, and implementation of the development project is underway.
Analogous Reservoir	Analogous reservoirs, as used in resources assessments, have similar rock and fluid properties, reservoir conditions (depth, temperature, and pressure) and drive mechanisms, but are typically at a more advanced stage of development than the reservoir of interest and thus may provide concepts to assist in the interpretation of more limited data and estimation of recovery.
Assessment	See Evaluation.
Associated Gas	Associated Gas is a natural gas found in contact with or dissolved in crude oil in thereservoir. It can be further categorized as Gas-Cap Gas or Solution Gas.
Barrels of Oil Equivalent (Boe)	See Crude Oil Equivalent.
Best Estimate	With respect to resource categorization, this is considered to be the best estimate of the quantity that will actually be recovered from the accumulation by the project. It is the most realistic assessment of recoverable quantities if only a single result were reported. If probabilistic methods are used, there should be at least a 50% probability (P50) that the quantities actually recovered will equal or exceed the best estimate.
Chance	Chance is 1- Risk. (See Risk.)
Commercial	When a project is commercial, this implies that the essential social, environmental, and economic conditions are met, including political, legal, regulatory, and contractual conditions. In addition, a project is commercial if the degree of commitment is such that the accumulation is expected to be developed and placed on production within a reasonable time frame. While 5 years is recommended as a benchmark, a longer time frame could be applied where, for example, development of economic projects are deferred at the option of the producer for, among other things, market-related reasons, or to meet contractual or strategic objectives. In all cases, the justification for classification as Reserves should be clearly documented.
Committed Project	Projects status where there is a demonstrated, firm intention to develop and bring to production. Intention may be demonstrated with funding/financial plans and declaration of commerciality based on realistic expectations of regulatory approvals and reasonable satisfaction of other conditions that would otherwise prevent the project from being developed and brought to production.
Completion	Completion of a well. The process by which a well is brought to its final classification— basically dry hole, producer, injector, or monitor well. A dry hole is normally plugged and abandoned. A well deemed to be producible of petroleum, or used as an injector, is completed by establishing a connection between the reservoir(s) and the surface so that fluids can be produced from, or injected into, the reservoir. Various methods are utilized to establish this connection, but they commonly involve the installation of some combination of borehole equipment, casing and tubing, and surface injection or production facilities.

Completion Interval	The specific reservoir interval(s) that is (are) open to the borehole and connected to the surface facilities for production or injection, or reservoir intervals open to the wellbore and each other for injection purposes.
Concession	A grant of access for a defined area and time period that transfers certain entitlements to produced hydrocarbons from the host country to an enterprise. The enterprise is generally responsible for exploration, development, production, and sale of hydrocarbons that may be discovered. Typically granted under a legislated fiscal system where the host country collects taxes, fees, and sometimes royalty on profits earned.
Condensate	A mixture of hydrocarbons (mainly pentanes and heavier) that exist in the gaseous phase at original temperature and pressure of the reservoir, but when produced, are in the liquid phase at surface pressure and temperature conditions. Condensate differs from natural gas liquids (NGL) in two respects: 1) NGL is extracted and recovered in gas plants rather than lease separators or other lease facilities; and 2) NGL includes very light hydrocarbons (ethane, propane, butanes) as well as the pentanes-plus that are the main constituents of condensate. Compare to Natural Gas Liquids (NGL)
Conditions	The economic, marketing, legal, environmental, social, and governmental factors forecast to exist and impact the project during the time period being evaluated (also termed Contingencies).
Contingency	See Conditions.
Contingent Project	Development and production of recoverable quantities has not been committed due to conditions that may or may not be fulfilled.
Contingent Resources	Those quantities of petroleum estimated, as of a given date, to be potentially recoverable from known accumulations by application of development projects but which are not currently considered to be commercially recoverable due to one or more contingencies. Contingent Resources are a class of discovered recoverable resources.
Cost Recovery	Under a typical production-sharing agreement, the contractor is responsible for the field development and all exploration and development expenses. In return, the contractor recovers costs (investments and operating expenses) out of the gross production stream. The contractor normally receives payment in oil production and is exposed to both technical and marketrisks.
Crude Oil	Petroleum that exists in the liquid phase in natural underground reservoirs and remains liquid at atmospheric conditions of pressure and temperature. Crude Oil may include small amounts of nonhydrocarbons produced with the liquids but does not include liquids obtained from the processing of natural gas.
Crude Oil Equivalent	Conversion of gas volumes to their oil equivalent, customarily done on the basis of the nominal heating content or caloric value of the fuel. Before aggregating, the gas volumes first must be converted to the same temperature and pressure. Common industry gas conversion factors usually range between 1 barrel of oil equivalent (Boe) = 5,600–6,000 standard cubic feet of gas. (Also termed Barrels of Oil Equivalent.)
Cumulative Production	The sum of production of oil and gas to date (see also Production).
Current Economic Conditions	Establishment of current economic conditions should include relevant historical petroleum prices and associated costs and may involve a defined averaging period. The SPE guidelines recommend that a one-year historical average of costs and prices should be used as the default basis of “constant case” resources estimates and associated project cash flows.
Deposit	Material that has accumulated due to a natural process. In resource evaluations it identifies an accumulation of hydrocarbons in a reservoir (see Accumulation).
Deterministic Estimate	The method of estimation of Reserves or Resources is called deterministic if a discrete estimate(s) is made based on known geoscience, engineering, and economic data.
Developed Reserves	Developed Reserves are expected to be recovered from existing wells including reserves behind pipe. Improved recovery reserves are considered "Developed" only after the necessary equipment has been installed, or when the costs to do so are relatively minor compared to the cost of a well.

	Developed Reserves may be further subclassified as Producing or Non- Producing.
Developed Producing reserves	Developed Producing Reserves are expected to be recovered from completion intervals that are open and producing at the time of the estimate. Improved recovery reserves are considered producing only after the improved recovery project is in operation.
Developed Non-producing reserves	Developed Non-Producing Reserves include shut-in and behind-pipe Reserves. Shut-in Reserves are expected to be recovered from (1) completion intervals that are open at the time of the estimate but which have not yet started producing, (2) wells that were shut in for market conditions or pipeline connections, or (3) wells not capable of production for mechanical reasons. Behind- pipe Reserves are also those expected to be recovered from zones in existing wells that will require additional completion work or future recompletion prior to start of production. In all cases, production can be initiated or restored with relatively low expenditure compared to the cost of drilling a new well.
Development not Viable	A discovered accumulation for which there are no current plans to develop or to acquire additional data at the time due to limited production potential. A project maturity sub- class that reflects the actions required to move a project toward commercial production.
Development Pending	A discovered accumulation where project activities are ongoing to justify commercial development in the foreseeable future. A project maturity subclass that reflects the actions required to move a project toward commercial production.
Development Place	The design specifications, timing, and cost estimates of the development project that can include, but is not limited to, well locations, completion techniques, drilling methods, processing facilities, transportation and marketing. (See also Project.)
Development Unclarified or on Hold	A discovered accumulation where project activities are on hold and/or where justification as a commercial development may be subject to significant delay. A project maturity subclass that reflects the actions required to move a project toward commercial production.
Discovered	A discovery is one petroleum accumulation, or several petroleum accumulations collectively, for which one or several exploratory wells have established through testing, sampling, and/or logging the existence of a significant quantity of potentially moveable hydrocarbons. In this context, "significant" implies that there is evidence of a sufficient quantity of petroleum to justify estimating the in-place volume demonstrated by the well(s) and for evaluating the potential for economic recovery. (See also Known Accumulations.)
Discovered Petroleum Initially-in-Place	Discovered Petroleum Initially-in-Place is that quantity of petroleum that is estimated, as of a given date, to be contained in known accumulations prior to production. Discovered Petroleum Initially-In-Place may be subdivided into Commercial, Sub- Commercial, and Unrecoverable, with the estimated commercially, recoverable portion being classified as Reserves and the estimated subcommercial recoverable portion being classified as Contingent Resources.
Economic	In relation to petroleum Reserves and Resources, economic refers to the situation where the income from an operation exceeds the expenses involved in, or attributable to, that operation.
Economic Interest	An Economic Interest is possessed in every case in which an investor has acquired any Interest in mineral in place and secures, by any form of legal relationship, revenue derived from the extraction of the mineral to which he must look for a return of his capital.
Economic Limit	Economic limit is defined as the production rate beyond which the net operating cash flows (after royalties or share of production owing to others) from a project, which may be an individual well, lease, or entire field, are negative.
Entitlement	That portion of future production (and thus resources) legally accruing to a lessee or contractor under the terms of the development and production contract with a lessor.
Entity	A legal construct capable of bearing legal rights and obligations. In resources evaluations this typically refers to the lessee or contractor which is some form of legal corporation (or consortium of corporations). In a broader sense, an entity can be an organization of any form and may include governments or their agencies.

Estimated Ultimate Recovery (EUR)	Those quantities of petroleum that are estimated, on a given date, to be potentially recoverable from an accumulation, plus those quantities already produced therefrom.
Economic Limit	Economic limit is defined as the production rate beyond which the net operating cash flows (after royalties or share of production owing to others) from a project, which may be an individual well, lease, or entire field, are negative.
Entitlement	That portion of future production (and thus resources) legally accruing to a lessee or contractor under the terms of the development and production contract with a lessor.
Entity	A legal construct capable of bearing legal rights and obligations. In resources evaluations this typically refers to the lessee or contractor which is some form of legal corporation (or consortium of corporations). In a broader sense, an entity can be an organization of any form and may include governments or their agencies.
Estimated Ultimate Recovery (EUR)	Those quantities of petroleum that are estimated, on a given date, to be potentially recoverable from an accumulation, plus those quantities already produced therefrom.
Evaluation	The geosciences, engineering, and associated studies, including economic analyses, conducted on a petroleum exploration, development, or producing project resulting in estimates of the quantities that can be recovered and sold and the associated cash flow under defined forward conditions. Projects are classified and estimates of derived quantities are categorized according to applicable guidelines. (Also termed Assessment.)
Evaluator	The person or group of persons responsible for performing an evaluation of a project. These may be employees of the entities that have an economic interest in the project or independent consultants contracted for reviews and audits. In all cases, the entity accepting the evaluation takes responsibility for the results, including Reserves and Resources and attributed value estimates.
Exploration	Prospecting for undiscovered petroleum.
Field	An area consisting of a single reservoir or multiple reservoirs all grouped on, or related to, the same individual geological structural feature and/or stratigraphic condition. There may be two or more reservoirs in a field that are separated vertically by intervening impermeable rock, laterally by local geologic barriers, or both. The term may be defined differently by individual regulatory authorities.
Flow Test	An operation on a well designed to demonstrate the existence of moveable petroleum in a reservoir by establishing flow to the surface and/or to provide an indication of the potential productivity of that reservoir (such as a wireline formation test).
Fluid Contact's	The surface or interface in a reservoir separating two regions characterized by predominant differences in fluid saturations. Because of capillary and other phenomena, fluid saturation change is not necessarily abrupt or complete, nor is the surface necessarily horizontal
Forecast Case	Modifier applied to project resources estimates and associated cash flow when such estimates are based on those conditions (including costs and product price schedules) forecast by the evaluator to reasonably exist throughout the life of the project. Inflation or deflation adjustments are made to costs and revenues over the evaluation period.
Fuel Gas	See Lease Fuel.
Gas/Oil Ratio (GOR)	Gas to Oil Ratio (GOR) in an oil field, calculated using measured natural gas and crude oil volumes at stated conditions. The gas/oil ratio may be the solution gas/oil ration (Rs); produced gas/oil ratio (Rp); or another suitably defined ratio of gas production to oil production.
High Estimate (Resources)	With respect to resource categorization, this is considered to be an optimistic estimate of the quantity that will actually be recovered from an accumulation by a project. If probabilistic methods are used, there should be at least a 10% probability (P10) that the quantities actually recovered will equal or exceed the high estimate.
Hydrocarbons	Chemical compounds consisting wholly of hydrogen and carbon.
Justified for Development	Implementation of the development project is justified on the basis of reasonable forecast commercial conditions at the time of reporting and that there are reasonable expectations that all necessary approvals/contracts will be obtained. A project maturity subclass that reflects the actions required to move a project toward commercial production.
Kerogen	Naturally occurring, solid, insoluble organic material that occurs in source rocks and can yield oil or gas upon subjection to heat and pressure. Kerogen is also defined as the fraction of large chemical aggregates in sedimentary organic matter that is insoluble in solvents (in contrast, the fraction that is soluble in organic solvents is called natural bitumen). (See also Oil Shales.)

Known Accumulation	An accumulation is an individual body of petroleum-in-place. The key requirement to consider an accumulation as "known," and hence containing Reserves or Contingent Resources, is that it must have been discovered, that is, penetrated by a well that has established through testing, sampling, or logging the existence of a significant quantity of recoverable hydrocarbons.
Lead	A project associated with a potential accumulation that is currently poorly defined and requires more data acquisition and/or evaluation in order to be classified as a prospect. A project maturity subclass that reflects the actions required to move a project toward commercial production.
Low/Best/High Estimates	The range of uncertainty reflects a reasonable range of estimated potentially recoverable volumes at varying degrees of uncertainty (using the cumulative scenario approach) for an individual accumulation or a project
Low Estimate	With respect to resource categorization, this is considered to be a conservative estimate of the quantity that will actually be recovered from the accumulation by a project. If probabilistic methods are used, there should be at least a 90% probability (P90) that the quantities actually recovered will equal or exceed the low estimate.
Marginal Contingent Resources	Known (discovered) accumulations for which a development project(s) has been evaluated as economic or reasonably expected to become economic but commitment is withheld because of one or more contingencies (e.g., lack of market and/or infrastructure).
Measurement	The process of establishing quantity (volume or mass) and quality of petroleum products delivered to a reference point under conditions defined by delivery contract or regulatory authorities.
Mineral Interest	Mineral Interests in properties including (1) a fee ownership or lease, concession, or other interest representing the right to extract oil or gas subject to such terms as may be imposed by the conveyance of that interest; (2) royalty interests, production payments payable in oil or gas, and other non- operating interests in properties operated by others; and (3) those agreements with foreign governments or authorities under which a reporting entity participates in the operation of the related properties or otherwise serves as producer of the underlying reserves (as opposed to being an independent purchaser, broker, dealer, or importer).
Monte Carlo Stimulation	A type of stochastic mathematical simulation that randomly and repeatedly samples input distributions (e.g., reservoir properties) to generate a resulting distribution (e.g., recoverable petroleum volumes).
Natural Gas	Natural Gas is the portion of petroleum that exists either in the gaseous phase or is in solution in crude oil in natural underground reservoirs, and which is gaseous at atmospheric conditions of pressure and temperature. Natural Gas may include some amount of nonhydrocarbons.
Natural Gas Liquids (NGL)	A mixture of light hydrocarbons that exist in the gaseous phase at reservoir conditions but are recovered as liquids in gas processing plants. NGL differs from condensate in two principal respects: (1) NGL is extracted and recovered in gas plants rather than lease separators or other lease facilities; and (2) NGL includes very light hydrocarbons (ethane, propane, butanes) as well as the pentanes-plus (the main constituent of condensates).
Natural Gas Liquids to Gas Ratio	Natural gas liquids to gas ratio in an oil or gas field, calculated using measured natural gas liquids and gas volumes at stated conditions.
Net-back	Linkage of input resource to the market price of the refined products.
Net Profits Interest	An interest that receives a portion of the net proceeds from a well, typically after all costs have been paid.
Net Working Interest	A company's working interest reduced by royalties or share of production owing to others under applicable lease and fiscal terms. (Also called Net Revenue Interest.)
Non-Associated Gas	Non-Associated Gas is a natural gas found in a natural reservoir that does not contain crude oil.
Normal Production Practices	Production practices that involve flow of fluids through wells to surface facilities that involve only physical separation of fluids and, if necessary, solids. Wells can be stimulated, using techniques including, but not limited to, hydraulic fracturing, acidization, various other chemical treatments, and thermal methods, and they can be artificially lifted (e.g., with pumps or gas lift). Transportation methods can include mixing with diluents to enable flow, as well as conventional methods of compression or pumping. Practices that involve chemical reforming of molecules of the produced fluids are considered manufacturing processes.
On Production	The development project is currently producing and selling petroleum to market. A project status/maturity subclass that reflects the actions required to move a project toward commercial production.
Operator	The company or individual responsible for managing an exploration, development, or production operation.

Penetration	The intersection of a wellbore with a reservoir.
Petroleum	Petroleum is defined as a naturally occurring mixture consisting of hydrocarbons in the gaseous, liquid, or solid phase. Petroleum may also contain nonhydrocarbon compounds, common examples of which are carbon dioxide, nitrogen, hydrogen sulfide, and sulfur. In rare cases, nonhydrocarbon content could be greater than 50%.
Petroleum Initially-in-Place	Petroleum Initially-in-Place is the total quantity of petroleum that is estimated to exist originally in naturally occurring reservoirs. Crude Oil-in-place, Natural Gas- in-place and Natural Bitumen-in-place are defined in the same manner (see Resources). (Also referred as Total Resource Base or Hydrocarbon Endowment.)
Play	A project associated with a prospective trend of potential prospects, but which requires more data acquisition and/or evaluation in order to define specific leads or prospects. A project maturity subclass that reflects the actions required to move a project toward commercial production.
Pool	An individual and separate accumulation of petroleum in a reservoir.
Possible Reserves (P3)	An incremental category of estimated recoverable volumes associated with a defined degree of uncertainty. Possible Reserves are those additional reserves that analysis of geoscience and engineering data suggest are less likely to be recoverable than Probable Reserves. The total quantities ultimately recovered from the project have a low probability to exceed the sum of Proved plus Probable plus Possible (3P), which is equivalent to the high estimate scenario. When probabilistic methods are used, there should be at least a 10% probability that the actual quantities recovered will equal or exceed the 3P estimate.
Primary Recovery	Primary recovery is the extraction of petroleum from reservoirs utilizing only the natural energy available in the reservoirs to move fluids through the reservoir rock to other points of recovery.
Probability	The extent to which an event is likely to occur, measured by the ratio of the favorable cases to the whole number of cases possible. SPE convention is to quote cumulative probability of exceeding or equaling a quantity where P90 is the small estimate and P10 is the large estimate. (See also Uncertainty.)
Probabilistic Estimate	The method of estimation of Resources is called probabilistic when the known geoscience, engineering, and economic data are used to generate a continuous range of estimates and their associated probabilities.
Probable Reserves	An incremental category of estimated recoverable volumes associated with a defined degree of uncertainty. Probable Reserves are those additional Reserves that are less likely to be recovered than Proved Reserves but more certain to be recovered than Possible Reserves. It is equally likely that actual remaining quantities recovered will be greater than or less than the sum of the estimated Proved plus Probable Reserves (2P). In this context, when probabilistic methods are used, there should be at least a 50% probability that the actual quantities recovered will equal or exceed the 2P estimate.
Production	Production is the cumulative quantity of petroleum that has been actually recovered over a defined time period. While all recoverable resource estimates and production are reported in terms of the sales product specifications, raw production quantities (sales and nonsales, including nonhydrocarbons) are also measured to support engineering analyses requiring reservoir voidage calculations.
Production-Sharing Contract	In a production-sharing contract between a contractor and a host government, the contractor typically bears all risk and costs for exploration, development, and production. In return, if exploration is successful, the contractor is given the opportunity to recover the incurred investment from production, subject to specific limits and terms. Ownership is retained by the host government; however, the contractor normally receives title to the prescribed share of the volumes as they are produced
Profit Split	Under a typical production-sharing agreement, the contractor is responsible for the field development and all exploration and development expenses. In return, the contractor is entitled to a share of the remaining profit oil or gas. The contractor receives payment in oil or gas production and is exposed to both technical and market risks.
Project	Represents the link between the petroleum accumulation and the decision- making process, including budget allocation. A project may, for example, constitute the development of a single reservoir or field, or an incremental development in a producing field, or the integrated development of a group of several fields and associated facilities with a common ownership. In general, an individual project will represent a specific maturity level at which a decision is made on whether or not to proceed (i.e., spend money), and there should be an associated range of estimated recoverable resources for that project. (See also Development Plan)

Property	A volume of the Earth's crust wherein a corporate entity or individual has contractual rights to extract, process, and market a defined portion of specified in-place minerals (including petroleum). Defined in general as an area but may have depth and/or stratigraphic constraints. May also be termed a lease, concession, or license.
Prospect	A project associated with a potential accumulation that is sufficiently well defined to represent a viable drilling target. A project maturity sub-class that reflects the actions required to move a project toward commercial production.
Prospective Resources	Those quantities of petroleum that are estimated, as of a given date, to be potentially recoverable from undiscovered accumulations.
Proved Economic	In many cases, external regulatory reporting and/or financing requires that, even if only the Proved Reserves estimate for the project is actually recovered, the project will still meet minimum economic criteria; the project is then termed as "Proved Economic."
Proved Reserves	An incremental category of estimated recoverable volumes associated with a defined degree of uncertainty Proved Reserves are those quantities of petroleum which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known reservoirs and underdefined economic conditions, operating methods, and government regulations. 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 probabilistic methods are used, there should be at least a 90% probability that the quantities actually recovered will equal or exceed the estimate. Often referred to as 1P, also as "Proven."
Purchase Contract	A contract to purchase oil and gas provides the right to purchase a specified volume of production at an agreed price for a defined term.
Pure-Surface Contract	A pure-service contract is an agreement between a contractor and a host government that typically covers a defined technical service to be provided or completed during a specific period of time. The service company investment is typically limited to the value of equipment, tools, and expenses for personnel used to perform the service. In most cases, the service contractor's reimbursement is fixed by the terms of the contract with little exposure to either project performance or market factors.
Range of Uncertainty	The range of uncertainty of the recoverable and/or potentially recoverable volumes may be represented by either deterministic scenarios or by a probability distribution. (See Resource Uncertainty Categories.)
Raw Natural Gas	Raw Natural Gas is natural gas as it is produced from the reservoir. It includes water vapor and varying amounts of the heavier hydrocarbons that may liquefy in lease facilities or gas plants and may also contain sulfur compounds such as hydrogen sulfide and other nonhydrocarbon gases such as carbon dioxide, nitrogen, or helium, but which, nevertheless, is exploitable for its hydrocarbon content. Raw Natural Gas is often not suitable for direct utilization by most types of consumers.
Reasonable Certainty	If deterministic methods for estimating recoverable resource quantities are used, then reasonable certainty is intended to express a high degree of confidence that the estimated quantities will be recovered.
Reasonable Expectation	Indicates a high degree of confidence (low risk of failure) that the project will proceed with commercial development or the referenced event will occur.
Reasonable Forecast	Indicates a high degree of confidence in predictions of future events and commercial conditions. The basis of such forecasts includes, but is not limited to, analysis of historical records and published global economic models.
Recoverable Resources	Those quantities of hydrocarbons that are estimated to be producible from discovered or undiscovered accumulations.
Recoverable Efficiency	A numeric expression of that portion of in- place quantities of petroleum estimated to be recoverable by specific processes or projects, most often represented as a percentage.
Reference Point	A defined location within a petroleum extraction and processing operation where quantities of produced product are measured under defined conditions prior to custody transfer (or consumption). Also called Point of Sale or Custody Transfer Point.
Reserves	Reserves are those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions. Reserves must further satisfy four criteria: They must be discovered, recoverable, commercial, and remaining (as of a given date) based on the development project(s) applied.
Reservoir	A subsurface rock formation containing an individual and separate natural accumulation of moveable petroleum that is confined by impermeable rocks/formations and is characterized by a single-pressure system.
Resources	The term "resources" as used herein is intended to encompass all quantities of petroleum (recoverable and unrecoverable) naturally occurring on or within the Earth's crust, discovered and undiscovered, plus

	those quantities already produced. Further, it includes all types of petroleum whether currently considered “conventional” or “unconventional” (see Total Petroleum Initially- in-Place). (In basin potential studies, it may be referred to as Total Resource Base or Hydrocarbon Endowment.)
Resources Categories	Subdivisions of estimates of resources to be recovered by a project(s) to indicate the associated degrees of uncertainty. Categories reflect uncertainties in the total petroleum remaining within the accumulation (in- place resources), that portion of the in- place petroleum that can be recovered by applying a defined development project or projects, and variations in the conditions that may impact commercial development (e.g., market availability, contractual changes)
Resources Classes	Subdivisions of Resources that indicate the relative maturity of the development projects being applied to yield the recoverable quantity estimates. Project maturity may be indicated qualitatively by allocation to classes and subclasses and/or quantitatively by associating a project’s estimated chance of reaching producing status.
Revenue-Sharing Contract	Revenue-sharing contracts are very similar to the production-sharing contracts described earlier, with the exception of contractor payment. With these contracts, the contractor usually receives a defined share of revenue rather than a share of the production.
Reversionary Interest	The right of future possession of an interest in a property when a specified condition has been met.
Risk	The probability of loss or failure. As “risk” is generally associated with the negative outcome, the term “chance” is preferred for general usage to describe the probability of a discrete event occurring.
Risk and Reward	Risk and reward associated with oil and gas production activities stems primarily from the variation in revenues due to technical and economic risks. Technical risk affects a company’s ability to physically extract and recover hydrocarbons and is usually dependent on a number of technical parameters. Economic risk is a function of the success of a project and is critically dependent on cost, price, and political or other economic factors.
Risked-Serviced Contract	These agreements are very similar to the production-sharing agreements with the exception of contractor payment, but risk is borne by the contractor. With a risked- service contract, the contractor usually receives a defined share of revenue rather than a share of the production.
Royalty	Royalty refers to payments that are due to the host government or mineral owner (lessor) in return for depletion of the reservoirs and the producer (lessee/contractor) for having access to the petroleum resources. Many agreements allow for the producer to lift the royalty volumes, sell them on behalf of the royalty owner, and pay the proceeds to the owner. Some agreements provide for the royalty to be taken only in kind by the royalty owner.
Sales	The quantity of petroleum product delivered at the custody transfer (reference point) with specifications and measurement conditions as defined in the sales contract and/or by regulatory authorities. All recoverable resources are estimated in terms of the product sales quantity measurements.
Solution Gas	Solution Gas is a natural gas that is dissolved in crude oil in the reservoir at the prevailing reservoir conditions of pressure and temperature. It is a subset of Associated Gas.
Stochastic Estimate	Adjective defining a process involving or containing a random variable or variables or involving chance or probability such as a stochastic stimulation
Subcommercial	A project is subcommercial if the degree of commitment is such that the accumulation is not expected to be developed and placed on production within a reasonable time frame. While 5 years is recommended as a benchmark, a longer time frame could be applied where, for example, development of economic projects are deferred at the option of the producer for, among other things, market-related reasons, or to meet contractual or strategic objectives. Discovered subcommercial projects are classified as Contingent Resources.
Submarginal Contingent Resources	Known (discovered) accumulations for which evaluation of development project(s) indicated they would not meet economic criteria, even considering reasonably expected improvements in conditions.
Taxes	Obligatory contributions to the public funds, levied on persons, property, or income by governmental authority.
Technical Uncertainty	Indication of the varying degrees of uncertainty in estimates of recoverable quantities influenced by range of potential in-place hydrocarbon resources within the reservoir and the range of the recovery efficiency of the recovery project being applied.

Total Petroleum Initially-in-Place	Total Petroleum Initially-in-Place is generally accepted to be all those estimated quantities of petroleum contained in the subsurface, as well as those quantities already produced. This was defined previously by the WPC as “Petroleum-in-place” and has been termed “Resource Base” by others. Also termed “Original-in-Place” or “Hydrocarbon Endowment.”
Uncertainty	The range of possible outcomes in a series of estimates. For recoverable resource assessments, the range of uncertainty reflects a reasonable range of estimated potentially recoverable quantities for an individual accumulation or a project. (See also Probability.)
Unconventional Resources	Petroleum accumulations that are pervasive throughout a large area and that are not significantly affected by hydrodynamic influences (also referred to as “continuous- type deposits”). Examples include coalbed methane (CBM), basin-centered gas, shale gas, gas hydrate, natural bitumen (tar sands), and oil shale deposits. Typically, such accumulations require specialized extraction technology (e.g., dewatering of CBM, massive fracturing programs for shale gas, steam and/or solvents to mobilize bitumen for in-situ recovery, and in some cases, mining activities). Moreover, the extracted petroleum may require significant processing prior to sale (e.g., bitumen upgraders).
Undeveloped Reserves	Undeveloped Reserves are quantities expected to be recovered through future investments: (1) from new wells on undrilled acreage in known accumulations, (2) from deepening existing wells to a different (but known) reservoir, (3) from infill wells that will increase recovery, or (4) where a relatively large expenditure (e.g., when compared to the cost of drilling a new well) is required to (a) recomplete an existing well or (b) install production or transportation facilities for primary or improved recovery projects.
Unproved Reserves	Unproved Reserves are based on geoscience and/or engineering data similar to that used in estimates of Proved Reserves, but technical or other uncertainties preclude such reserves being classified as Proved. Unproved Reserves may be further categorized as Probable Reserves and Possible Reserves.
Unrecoverable Resources	That portion of Discovered or Undiscovered Petroleum Initially-in-Place quantities that are estimated, as of a given date, not to be recoverable. A portion of these quantities may become recoverable in the future as commercial circumstances change, technological developments occur, or additional data are acquired.
Well Abandonment	The permanent plugging of a dry hole, an injection well, an exploration well or a well that no longer produces petroleum or is no longer capable of producing petroleum profitably. Several steps are involved in the abandonment of a well: permission for abandonment and procedural requirements are secured from official agencies; the casing is removed and salvaged if possible; and one or more cement plugs and/or mud are placed in the borehole to prevent migration of fluids between the different formations penetrated by the borehole. In some cases, wells may be temporarily abandoned where operations are suspended for extended periods pending future conversions to other applications such as reservoir monitoring, enhanced recovery, etc.
Wet Gas	Wet (Rich) gas is natural gas from which no liquids have been removed prior to the reference point. The wet gas is accounted for in resource assessments, and there is no separate accounting for contained liquids. It should be recognized that this is a resource assessment definition and not a phase behavior definition.
Working Interest	A company’s equity interest in a project before reduction for royalties or production share owed to others under the applicable fiscal terms.