

GLOSSARY OF TECHNICAL TERMS

This glossary of technical terms contains explanations of certain terms used in this prospectus as they relate to us and as they are used in this prospectus in connection with our business or us. These terms and their given meanings may not correspond to standard industry definitions.

- “acidising”** The pumping of acid into the well bore to break down seismic formation near the well bore, a procedure to enhance productivity by increasing the effective well radius.
- “API”** American Petroleum Institute
- “casing”** A steel pipe that is screwed together and lowered into the well bore after drilling; the casing, along with cement, provide support to the well bore against surrounding geological pressure so as to maintain well bore stability.
- “CBM or coalbed methane”** a form of natural gas, mainly methane, that is trapped on the surface of the coal and can be extracted through the removal of the water which is contained within the coal seams.
- “cementing”** To prepare and pump cement into place in a well bore. This procedure is used to reinforce and seal an oil and gas well.
- “commodity applications”** Typically include oilfield services that are ordinarily applied to shallow wells of less than 5,000 ft deep, low pressure wells of less than 2,000 psi, and low temperature wells of less than 150°C.
- “cutting”** The fragments of rock dislodged by the drill bit and brought to the surface usually contained in the drilling fluids or mud. Washed and dried cuttings samples are analysed by geologists to obtain information about the formations drilled.
- “directional drilling”** The technology for drilling inclined and horizontal wells.
- “downhole”** Pertaining to or underground in the well bore (as opposed to being on the surface).
- “drill bit”** The tool attached to the end of the drill string which cuts and bores its way through the rock formations at the bottom of the well.
- “drill collar”** A thick-walled seamless, tube made of solid bars of plain carbon steel or reinforced alloy steel with threads in both ends, which connects the drill pipe to the drill bit.
- “drill pipe”** A seamless steel pipe made of advanced alloy steel screwed together by joints which connect the rotary system on the rig to the drill collar and drill bit downwell. It is used for deepening the well bore and transmitting the torque, and it forms a channel for the circulation of drilling fluids.
- “drilling fluids”** Fluids circulated downwell during drilling to cool and lubricate the drill bit, remove well cuttings, maintain downwell pressure and preserve the integrity of the well bore. Drilling fluids can be water, oil, or gas-based, with various additives. Synonymous with “drilling mud” in general usage.

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- “drill string”** The connected column of drill pipe, drill collar and drill bit, which is driven by the rotary system of a rig.
- “EOR”** Enhanced oil recovery methods.
- “field”** A general term in geology for all discoveries in a specified (continued) oil producing area. The oil producing area is a geological unit subject to single or multiple geological factors.
- “fracturing and acidising”** The acid treatment process of squeezing acid into the stratum under pressure sufficient to form cracks by fracturing the stratum.
- “High-end or critical services well”** ... Deep, high pressure, and/or high temperature wells. While there are no industry standards defining “high end or critical service” in terms of depth, temperature, and pressure, it is generally accepted that wells in excess of 15,000 ft (~4,500 metres) deep are considered “deep”; wells with temperatures in excess of 150°C are generally considered “hot” and wells with pressures in excess of 10,000 psi (68.9 MPa) are generally considered “high pressure.”
- “horizontal well”** A well drilled by deviation drilling to achieve an inclination typically greater than 70 degrees. Such wells are drilled into reservoir formations to allow for maximum crude oil recovery and productivity.
- “HTHP”** High-temperature and high-pressure downwell conditions, which typically includes temperatures greater than 200°C and pressure greater than 10,000 psi; HTHP conditions make drilling more difficult.
- “liner”** A casing string that does not extend to the top of the well bore, but instead is anchored or suspended from inside the bottom of the previous casing string.
- “liner hanger”** A device used to attach or hang liners from the internal wall of a previous casing string.
- “Low-end services well”** Shallow, low pressure and low temperature wells. While there are no industry standards defining “low end” in terms of depth, temperature, and pressure, it is generally accepted that wells less than 5,000 ft deep are considered “shallow”; wells with pressures less than 2,000 psi are considered “low pressure” and wells with temperatures less than 150°C are considered “low temperature.”
- “M”** Metre.
- “mmbtu”** One million British thermal units, a traditional unit of energy often used in the power, steam generation, heating and air conditioning industries.
- “Mpa”** One million Pascals, which is one Newton of force applied to one square metre.
- “oil and gas production”** The process of extracting oil and gas from underground to the surface using a series of methods.

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- “perforate”** To create holes in the casing or liner to achieve efficient communication between the reservoir and the well bore.
- “psi”** Pounds per square inch, used to measure air or liquid pressure.
- “reservoir”** Porous rock layers or formations, such as sandstone, limestone and dolomite, that can store and allow percolation of oil and natural gas.
- “ROP”** Rate of penetration
- “sand control”** Methods or techniques to prevent the migration of reservoir sand into the well bore, areas near the well bore, or the downhole pumping equipment during oil and gas production.
- “seismic exploration”** An exploration method in which elastic wave energy or sound is put into the earth and the reflected energy off the subsurface rock layers or refracted energy that travels through the rock layers is recorded.
- “shale gas”** Shale gas is natural gas produced from shale rock. Vast quantities of gas are contained within shale rock in North America, which have only been significantly exploited in recent times as extraction technology has improved. Substantial quantities of shale gas are also thought to exist in Europe and China.
- “sidetracking”** A technology for conducting inclined well drilling in vertical wells or completed wells; it is used to stimulate old wells and increase production.
- “tight gas”** A form of natural gas in underground reservoirs with low permeability due to the fine-grained nature of the sediments, compaction, or infilling of pore spaces by carbonate or silicate cements.
- “well completion”** Services and installation of equipment that are necessary to prepare a well for production, including casing and well treatment, such as acidising and fracturing.
- “well logging”** Gathering, analysis and interpretation of data obtained downhole with special tools and techniques regarding geological attributes and hydrocarbon potential of an area.
- “workover”** Any work on a completed well designed to maintain, restore or improve production on a producing petroleum reservoir.
- “well bore” or “wellbore”** A well hole.