



**APPLICATION FOR APPROVAL
OF THE DEVELOPMENT PLAN FOR
NIGLINTGAK FIELD
PROJECT DESCRIPTION**

GLOSSARY

%	The symbol for percent.
°	The symbol for degrees.
°C	The symbol for degrees Celsius.
°F	The symbol for degrees Fahrenheit.
2-D	The abbreviation for two-dimensional.
3-D	The abbreviation for three-dimensional.
3-D dynamic reservoir model	A model built using Shell's proprietary software (MULTISIM) which was used to predict the field gas off-take rate with time, gas recovery and resources, under specific reservoir and operating conditions.
3-D static geological model	7A 3-D static model of the subsurface created using Shell's proprietary modelling software (DEPSIM).
a	The metric symbol for year.
abandoned well	A well not in use because it was a dry hole originally, because it has ceased to produce or because it was not capable of economic production.
abandonment	The act of permanently stopping operations, discontinuing service, removing facilities and restoring land to a productive state.
Aboriginal person	Any Indian, Inuit or Métis person who was born in the Northwest Territories or who is descended from an Aboriginal person born in the Northwest Territories.
access road	A temporary or permanent road that provides access to a pipeline right-of-way or to a facility, and that is not open to the general public.
adfreezing	The process by which one object adheres to another by the binding action of ice.
aggradation	The gradual buildup of land on a shore as a result of wave action, tides, currents, airborne material or alluvial deposits. Also known as <i>accretion</i> .
ALARP	The abbreviation for as low as reasonably practicable.
alkaline	Having the nature of an alkali, i.e., having a pH above 7.

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alluvial	Relating to or consisting of alluvium, or deposited by running water.
all-weather road	A paved or unpaved, i.e., gravel, road that is open to traffic all year.
amplitudes	The shapes and heights of the peaks in a spontaneous potential curve.
amsl	The abbreviation for above mean sea level.
anchor fields	The three natural-gas fields, Taglu, Parsons Lake and Niglintgak, whose production will provide the initial volume of gas shipped in the Mackenzie Valley pipeline.
annulus	The space surrounding a pipe in the wellbore, or the space between tubing and the wellbore. Also known as <i>annular space</i> .
ANSI	The abbreviation for American National Standards Institute.
anticline	Rock layers folded in the shape of an arch, in which the strata slope down from the crest. Anticlines sometimes trap oil and gas.
APG	The abbreviation for Aboriginal Pipeline Group.
API	The abbreviation for American Petroleum Institute.
aquatic	Growing, living in, or frequenting water. Also, occurring or situated in or on water.
aquifer	A water-saturated, permeable body of rock capable of transmitting significant or usable quantities of groundwater to wells and springs under ordinary hydraulic gradients.
aquitard	A bed of low permeability adjacent to an aquifer, which might serve as a storage unit for groundwater, although it does not yield water readily.
argillaceous	Rocks or sediments largely composed of clay-size particles or clay minerals.
ASME	The abbreviation for American Society of Mechanical Engineers.
asphaltene	Any of the dark, solid constituents of crude oil or bitumen that are soluble in carbon disulphide but insoluble in paraffin naphthas. They hold most of the organic constituents of bitumen.
ASTM	The abbreviation for American Society for Testing and Materials.
authigenic	Of constituents that came into existence with or after the formation of the rock of which they constitute a part. For example, the primary and secondary minerals of igneous rocks.

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availability	Unit of measure for the actual time a facility, pipeline, or other equipment is capable of providing service, if called upon.
azimuth	The direction of the wellbore in directional drilling, or the face of a deflection tool in degrees.
baseline	A surveyed condition that serves as a reference point to which later surveys are coordinated or correlated.
bathymetric	The science of measuring ocean depths in order to determine the sea floor topography.
bbl/d	The abbreviation for barrels per day.
BC	The abbreviation for British Columbia.
Bcf	The abbreviation for billion cubic feet.
Bcf/d	The abbreviation for billion cubic feet per day.
bedrock	The solid rock underlying soil or any other unconsolidated surficial cover.
benefits plan	A plan to provide Aboriginal and other northerners and other Canadians with a fair opportunity to participate competitively in supplying the goods, services and personnel required by the project.
bentonite	A type of clay derived from the alteration of volcanic ash.
berm	A mound or wall of earth.
bioturbation	The disruption of marine sedimentary structures by the activities of benthic organisms.
blowdown	The act of emptying or depressurizing material in a vessel.
blowout preventer	Any one of several types of valves used on the wellhead to prevent the loss of pressure either in the annular space between drill pipe and casing or in the open hole during drilling completion operations.
BOP	The abbreviation for blowout preventer.
borehole	The hole made by drilling or boring.
borrow site	An area that could be excavated to provide material, such as gravel or sand, to be used as fill elsewhere.
C₁	The chemical formula for methane.
C₂	The chemical formula for ethane.

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C₃	The chemical formula for propane.
C₄	The chemical formula for normal butane.
C₅	The chemical formula for pentane.
C₆	The chemical formula for hexane or toluene.
C₇₊	The chemical formula for heptane plus.
C₈	The chemical formula for normal octane.
capillary pressure	A pressure or adhesive force caused by the surface tension of water. This pressure causes the water to adhere more tightly to the surface of small pore spaces than to larger ones. Capillary pressure in a rock formation is comparable to the pressure of water that rises higher in a small glass capillary tube than it does in a larger tube.
casing	Steel pipe placed in an oil or gas well, as drilling progresses, to prevent the wall of the hole from caving in during drilling, to prevent seepage of fluids, and to provide a means of extracting petroleum if the well is productive.
CDD	The abbreviation for Commercial Discovery Declaration.
CEAA	The abbreviation for <i>Canadian Environmental Assessment Act</i> . Also, the abbreviation for the Canadian Environmental Assessment Agency.
chert	A rock of precipitated silica whose crystalline structure is not easily discernable and that fractures conchoidally (like glass). Flint, jasper and chat are forms of chert.
clast	A sedimentary rock consisting of fragments of pre-existing rocks.
clay	The fraction of an earthy material containing the smallest particles, i.e., particles finer than 3 µm.
cm	The metric symbol for centimetre.
CO₂	The chemical formula for carbon dioxide.
COGOA	The abbreviation for <i>Canada Oil and Gas Operations Act</i> .
commissioning	The act of charging a system and doing checkouts to ensure that equipment functions safely before start-up.
completion, well	The activities and methods of preparing a well for the production of oil and gas or for other purposes, such as injection.
compression, gas	The process of increasing the pressure on gas to reduce its volume or cause it to flow. Natural gas is usually compressed for pipeline transportation.

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compressor station	A facility containing equipment that is used to increase pressure to compress natural gas for transportation.
conglomerate	Cemented, rounded fragments of water-worn rock or pebbles, bound by a cement-like substance.
ConocoPhillips	The abbreviation for ConocoPhillips Canada (North) Limited.
continuous permafrost	A category of permafrost where more than 90% of all ground is frozen. Permafrost distribution along the Mackenzie Valley varies from extensive and continuous in the north to discontinuous and sporadic in the south.
Cooperation Plan	The abbreviation for the <i>Cooperation Plan for the Environmental Impact Assessment and Regulatory Review of a Northern Gas Pipeline Project through the Northwest Territories</i> .
CPCN	The abbreviation for Certificate of Public Convenience and Necessity.
Cretaceous	The geological period between about 144 and 65 million years before present.
crown land	Land whose mineral rights are owned by the federal or provincial governments in Canada.
CSA	The abbreviation for Canadian Standards Association.
decommissioning	The act of taking a processing plant or facility out of service and isolating equipment, to prepare for routine maintenance work, suspending or abandoning.
dehydration	The process of removing water or water vapour from gas or oil.
delineation well	A well drilled to evaluate the quality, thickness and areal extent of a reservoir.
delta	An alluvial deposit, usually triangular in shape, at the mouth of a river, stream, or tidal inlet.
deltaic	Of or relating to a delta.
demobilization	The process of moving people, supplies and equipment from the work site to another location.
development well	A well that is drilled after data from an exploration well has confirmed the presence of oil or gas in a formation.
Devonian	The geological period between about 408 to 360 to million years before present.
DFO	The abbreviation for Department of Fisheries and Oceans.

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diagenesis	All the changes that take place in a sediment at low temperature and pressure after deposition.
directional drilling	A drilling method in which the wellbore intentionally deviates from the vertical.
discontinuous permafrost	A category of permafrost where some of the underlying ground is unfrozen. Permafrost distribution along the Mackenzie Valley varies from extensive and continuous in the north to discontinuous and sporadic in the south.
dock	A berth or wharf, or an artificially enclosed body of water for loading and unloading ships and barges.
downhole	Pertaining to the wellbore.
downthrown	The side of a fault whose relative movement appears to have been downward.
DPA	The abbreviation for Development Plan Application.
drawdown	The difference between static and flowing bottomhole pressures. Also, the distance between the static level and the pumping level of the fluid in the annulus of a pumping well.
drilling mud	The fluid circulated through the wellbore during rotary drilling.
dry gas	Natural gas from the well that is free of liquid hydrocarbons, or gas that has been treated to remove all liquids.
DST	The abbreviation for drill stem test.
ecoregion	An ecological area that has broad similarities in soil, relief and dominant vegetation. Also referred to as an ecoclimatic region.
ECP	The abbreviation for external casing packer.
EEMUA	The abbreviation for Engineering Equipment and Materials Users Association.
EIA	The abbreviation for Environmental Impact Assessment.
EIS	The abbreviation for Environmental Impact Statement.
Enbridge	The abbreviation for Enbridge Pipelines (NW) Inc.
environmental impact assessment	The process of evaluating the biophysical, social and economic effects of a proposed project.

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environmental impact statement	A report containing the environmental impact assessment.
Eocene	A geological epoch in the Tertiary Period, extending from about 55 to 38 million years ago.
ESD	The abbreviation for emergency shutdown.
ESS	The abbreviation for expandable sand screen.
estuarine	Of or pertaining to estuaries.
exploration well	A well that is drilled primarily to determine if oil or gas actually exists in a subsurface rock formation.
ExxonMobil	The abbreviation for ExxonMobil Canada Properties.
facies	The total features of a sedimentary rock, including sedimentary structure, lithology and ichnofacies, that characterize a sediment as having been deposited in a given sedimentary environment.
fault	A fracture in rock along which the adjacent rock surfaces are differentially displaced.
FEED	The abbreviation for front-end engineering and design.
feldspar	A group of silicate minerals that includes a wide variety of potassium, sodium and aluminum silicates. Feldspar makes up about 60% of the outer 15 km of the earth's crust.
flare system	An arrangement of piping and burners used to dispose of surplus combustible vapours by igniting them in the atmosphere.
flash drum	A vessel in which volatile liquids are vaporized, by either heat or vacuum.
flow line	A pipe through which gas travels from a well to processing equipment or to storage. The pipe is either buried, or installed above-ground.
fluvial deposits	All sediments, past and present, deposited by flowing water.
footprint	The amount and shape of the area disturbed.
ft	The abbreviation for foot.
G	The metric symbol for giga (billion or 10 ⁹).
gas, natural	A compressible mixture of hydrocarbons with a low specific gravity that occurs naturally in a gaseous form.

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gathering pipelines	Four pipelines, also known as laterals, that transport natural gas and NGLs from the anchor fields to the Inuvik area facility. These include the Taglu lateral, Niglintgak lateral, Parsons Lake lateral and Storm Hills lateral.
gathering system	A system of pipelines and related facilities that include four gathering pipelines, the Inuvik area facility, the NGL pipeline and related facilities, such as valves, pig launchers and receivers. Also referred to as the <i>Mackenzie gathering system</i> .
geology	The study or science of the earth, its history, and its life as recorded in the rocks. Includes the study of geologic features of an area, such as the geometry of rock formations, weathering and erosion and sedimentation.
geotechnical	Related to the application of scientific methods and engineering principles to civil engineering problems, by acquiring, interpreting and using knowledge of materials of the crust of the earth.
GIIP	The abbreviation for gas-initially-in-place.
glacial till	Unsorted sedimentary material deposited directly by, and underneath, a glacier, consisting of a mixture of clay, silt, sand, gravel and boulders. Also known as <i>till</i> .
glycol	A group of compounds, such as ethylene glycol and diethylene glycol, used to dehydrate gaseous or liquid hydrocarbons, to inhibit the formation of hydrates, or to cool fluids (liquid or gas), by acting as a heat transfer medium.
Gm³	The metric symbol for billion cubic metres.
GNWT	The abbreviation for Government of the Northwest Territories.
granular resources	Material deposits that have a granulated surface or structure, such as gravel.
groundwater	The water within the earth that supplies water wells and springs.
H₂S	The chemical formula for hydrogen sulphide.
habitat	The part of the physical environment in which a plant or animal lives.
HDD	The abbreviation for horizontal directional drilling.
horizontal directional drilling	A river crossing technique used in pipeline construction in which the pipe is buried under the riverbed at depths much greater than conventional crossings. An inverted arc-shaped hole is drilled beneath the river and the preassembled pipeline is pulled through it.
HSE	The abbreviation for health, safety and environment.

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hydrate	A mixture of water and gas that forms a solid plug in a gas pipeline under certain conditions. Also known as gas hydrate plug.
hydrocarbons	Organic compounds of hydrogen and carbon whose densities, boiling points, and freezing points increase as their molecular weights increase. Petroleum is a mixture of many different hydrocarbons.
hydrogeology	The science dealing with the occurrence of ground water, its use and its functions in modifying the earth, primarily by erosion and deposition.
hydrology	The science that treats the occurrence, circulation, distribution and properties of the waters of the earth and their reaction with the environment.
IC₄	The chemical formula for isobutane.
IC₅	The chemical formula for isopentane.
ice road	A secondary road made of compact snow or ice, often plowed over a frozen lake or ground, and which is impassable in the summer. Also known as a <i>winter road</i> .
ID	The abbreviation for inside diameter.
IEEE	The abbreviation for Institute of Electrical and Electronic Engineers.
Imperial	The abbreviation for Imperial Oil Resources Ventures Limited.
INAC	The abbreviation for Indian and Northern Affairs Canada.
incident	A specific unplanned event or sequence of events that has an unwanted and unintended effect on people's safety or health, on property or the environment, or on regulatory compliance.
infrastructure	Basic facilities, such as transportation, communications, power supplies and buildings, that enable an organization, project or community to function.
inlet separator	A vessel located at the entrance to a hydrocarbon facility that separates the incoming stream into different components, such as gas and liquids.
ion	An atom, group of atoms or compound that is electrically charged as a result of the loss of electrons (cation) or the gain of electrons (anion).
ISA	The abbreviation for Instrument Society of America.
kg/m	The abbreviation for kilogram per metre.
km	The metric symbol for kilometre.

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km²	The metric symbol for square kilometre.
kPa	The metric symbol for kilopascal.
land use permit	A permit issued by the designated managing body for a specific tract of land, allowing for an activity to be conducted on that land, as described in a land use application.
laydown area	An area for placing pipe or tubing in a horizontal position on a pipe rack, or for storing other construction materials temporarily.
line heater	Equipment used to increase the temperature of natural gas flowing in a pipeline.
line of strike	The direction taken by a structural surface, such as a fault plane, as it intersects the horizontal. Also known as a <i>strike</i> .
litharenite	A variety of sandstone containing abundant rock fragment grains.
lithology	The study of rocks, or the individual character of a rock's mineral composition and structure.
logistics	The activities associated with procuring, maintaining and transporting materials, equipment and personnel.
m	The metric symbol for metre.
M	The metric symbol for mega (million or 10 ⁶).
m³	The metric symbol for cubic metres.
m³/d	The metric symbol for cubic metres per day.
Mackenzie gathering system	A system of pipelines and related facilities that include four gathering pipelines, the Inuvik area facility, the NGL pipeline and related facilities, such as valves, pig launchers and receivers. Also referred to as the <i>gathering system</i> .
mD	The abbreviation for millidarcy.
MD	The abbreviation for measured depth.
measured depth	The total length of the wellbore, measured along its actual course through the earth. Measured depth can differ from true vertical depth, especially in directionally drilled wellbores.
meltwater	Water derived from melting ice or snow, especially glacier ice.
mg/L	The metric symbol for milligrams per litre.

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millidarcy	The measurement of permeability.
mitigation	The elimination, reduction or control of the adverse environmental effects of the project, including restitution for any damage to the environment caused by such effects through replacement, restoration, compensation or any other means.
mKB	The abbreviation for metres from kelly bushing.
mm	The metric symbol for millimetre.
mm/a	The metric symbol for millimetres per year.
Mm³	The metric symbol for million cubic metres.
Mm³/d	The metric symbol for million cubic metres per day.
MMscf/d	The abbreviation for million standard cubic feet per day.
mobilization	The movement of people or equipment to the work site.
modularized	Components that are assembled into larger constructed modules in areas remote from the construction site.
mol%	The abbreviation for mole percent.
Monte Carlo simulation	A statistical method of using the random sampling of numbers to estimate the solution to a numerical problem.
MPa	The metric symbol for megapascal.
mSS	The abbreviation for metres subsea.
MSS	The abbreviation for Manufacturers Standardization Society.
mud, drilling	The fluid circulated through the wellbore during rotary drilling.
mudstone	A blocky or massive, fine-grained sedimentary rock in which the proportions of clay and silt are about equal.
MW	The abbreviation for megawatt.
N₂	The chemical formula for nitrogen.
N/A	The abbreviation for not applicable.
natural gas	A compressible mixture of hydrocarbons with a low specific gravity that occurs naturally in a gaseous form.

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natural gas liquids	Hydrocarbons that are gaseous in the reservoir, but that will separate out in liquid form at the pressures and temperatures at which separators normally operate. The liquids consist of varying proportions of butane, propane, pentane and heavier fractions, with little or no methane or ethane.
NEB	The abbreviation for the National Energy Board.
NEBA	The abbreviation for the <i>National Energy Board Act</i> .
NEMA	The abbreviation for National Electrical Manufacturers Association.
NFPA	The abbreviation for National Fire Protection Association.
NGL	The abbreviation for natural gas liquid.
NGO	The abbreviation for non-government organization.
NGTL	The abbreviation for NOVA Gas Transmission Ltd.
nominal pipe size	The outside diameter of a pipe, expressed in inches.
non-government organization	Any non-profit organization that is independent from government. Non-government organizations are typically value-based organizations that depend, in whole or in part, on charitable donations and voluntary service.
NORM	The abbreviation for naturally occurring radioactive material.
North, the	The Arctic, or the northern part of a province.
NPS	The abbreviation for nominal pipe size.
NTCL	The abbreviation for Northern Transportation Company Limited.
NWT	The abbreviation for Northwest Territories.
Oligocene	A geological epoch in the Tertiary Period, extending from about 38 to 25 million years ago.
P₅₀	The abbreviation for Probabilistic 50.
pad	The surface parts of a multiwell drilling or production site, including wells, buildings, piping and electrical facilities.
Paleocene	A major worldwide division, an epoch, of geological time of the Tertiary period, extending from the end of the Cretaceous period to the Eocene epoch.
particulate matter	Matter in the form of small liquid or solid particles.

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permafrost	Perennially frozen ground, occurring wherever the temperature remains below 0°C for several years.
permeability	The capacity of a porous rock, soil, or sediment for transmitting a fluid without damaging the structure of the medium.
petrology	The branch of geology concerned with origin, occurrence, structure, and history of rocks, principally igneous and metamorphic rock.
petrophysics	The study of the physical properties of reservoir rocks.
pig	An in-line scraper, i.e., brush, blade cutter or swab, that is forced through a pipeline by fluid pressure. The pig is used to remove scale, sand, water and other foreign matter from the interior surfaces of the pipe.
pigging	The act of pushing a device through a pipeline in order to physically clean deposits from the inner surface of the pipeline, or to remove liquids.
pigging facilities	Pipeline in-line inspection and cleaning tool receivers and launchers.
pingo	A low hill or mound forced up by hydrostatic pressure in an area underlain by permafrost.
polycrystalline	A material composed of aggregates of individual crystals.
polygons	Arrangements of rock, soil and vegetation formed on a level or gently sloping surface by frost action.
pore spaces	The pores in a rock or soil considered collectively. Also known as <i>pore volume</i> .
porosity	The presence of spaces (pores) between the grains of sand making up a rock formation. Porosity is measured by dividing pore volume by total rock volume.
ppm	The abbreviation for parts per million.
Preliminary Information Package	The initial report submitted by the proponents of a proposed project, indicating their intentions and providing information relevant to the project.
procurement	Activities that must take place to obtain, on schedule and at optimum price, materials or services needed to construct a project.
prodelta	The part of a delta lying beyond the delta front, and sloping gently down to the basin floor of the delta. It is entirely below the water level.
production	The operation of bringing raw natural gas to the surface for processing.

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progradation	Seaward buildup of a beach, delta or fan by nearshore deposition of sediments transported by a river, by accumulation of material thrown up by waves or by material moved by longshore drifting.
proponent	The organization (Shell Canada Limited) that is undertaking the Niglintgak field development.
PT	The abbreviation for production test.
public consultation	The process of involving all affected parties in the design, planning and operation of a project. The process requires that the proponents give the parties to be consulted notice of the matter in sufficient form and detail to allow them to prepare their views on the matter. They are also given a reasonable amount of time to prepare their views and an opportunity to present their views to the proponents, who consider the views presented, fully and impartially.
Q1	The abbreviation for the first quarter of the year (January 1 to March 31).
radiant heat	The heat that travels in all directions from a heat source.
RAM	The abbreviation for reliability and maintenance.
raw gas	Unprocessed gas or the inlet gas to a plant.
RCMP	The abbreviation for Royal Canadian Mounted Police.
reclamation	The process of re-establishing a disturbed site to a former or other productive use, not necessarily to the same condition that existed before disturbance. The land capability may be at a level different, i.e., lower or higher, than that which existed before the disturbance, depending on the goal of the process. Reclamation includes the management of a contaminated site and revegetation, where necessary. Reclamation is not considered complete until the goals for reclamation have been achieved.
regulators	The government departments or agencies that issue licences, permits or authorizations likely to be applied for in respect of a proposed project.
regulatory review	For the Mackenzie Gas Project, the processes related to a review of a certificate under the NEBA, applications under COGOA, land use permits and water licences under the <i>NWT Waters Act</i> , the <i>Mackenzie Valley Resource Management Act</i> and others.
reservoir	A subsurface, porous, permeable rock body containing a natural accumulation of oil or gas, or both.
resources	Those quantities of petroleum estimated on a given date to be potentially recoverable from known accumulations, but that are not currently considered to be commercially recoverable.

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retrogradation	Generally, a process of deterioration, a reversal or retrogression to a simpler physical form.
risk assessment	The process by which the results of a risk analysis are used to make decisions on the acceptability of the risk.
right-of-way	The right of passage or of crossing over someone else's land. Also, an easement in lands belonging to others that is obtained by agreement or lawful appropriation for public or private use.
RWED	The abbreviation for Resources, Wildlife and Economic Development.
sandstone	A consolidated rock composed of sand grains cemented together.
SCADA	The abbreviation for supervisory control and data acquisition.
scour	Erosion within a stream bed caused by the flow of water or ice.
SDL	The abbreviation for significant discovery licence.
sedimentology	The science concerned with the description, classification, origin, and interpretation of sediments and sedimentary rock.
SEIA	The abbreviation for Socio-Economic Impact Assessment.
seismic data	Detailed information obtained from earth vibration produced naturally or artificially (as in geophysical prospecting).
seismic map	A contour map constructed from seismic data, the <i>z</i> coordinate of which could be either time or depth.
seismic program	A study to obtain detailed information from earth vibrations that are produced naturally or artificially (as in geophysical prospecting).
service rig	A hoist and engine, mounted on a wheel chassis with a self-erecting mast, that is used to service wells.
settlement area	The main area where an Aboriginal group traditionally lived and pursued their livelihood. Rights and benefits defined by the Final Agreement, such as rights to hunt and fish, or economic benefits, such as consultation on exploration and development, may extend to the whole settlement area.
shale	A fine-grained laminated or fissile sedimentary rock made up of silt or clay-size particles. It generally consists of about one-third quartz, one-third clay materials and one-third miscellaneous minerals, including carbonates, iron oxides, feldspars and organic matter.
Shell	The abbreviation for Shell Canada Limited.

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shutdown	The act of stopping work temporarily or stopping a machine or piece of equipment in operation.
Significant Discovery Licence	A licence, issued under the provisions of the <i>Canada Petroleum Resources Act</i> , that allows the licence holder to explore, drill and test for petroleum and to develop frontier lands to produce petroleum.
silica	A mineral that has the chemical formula SiO_2 (silicon dioxide). It is relatively hard and insoluble. Quartz is a form of silica, but usually contains impurities that give it colour.
silt	A term used for detrital rocks that consist predominantly of particles ranging in size from 1/16 to 1/256 mm.
smectite	A variety of green clay mineral.
socio-economics	The study of social and economic factors.
spawning habitat	A particular type of area where a fish species chooses to reproduce. Preferred habitat (substrate, water flow and temperature) varies from species to species.
spring break-up	The time of year when the temperature rises sufficiently to thaw ice, causing it to break up in rivers, allowing them to become navigable.
spud date	The date on which drilling began on a well.
SSSV	The abbreviation for subsurface safety valve.
staging area	An area used by migratory birds to prepare for, or rest during, migratory flights.
staging site	A location where equipment is stored, maintained or readied for work.
stakeholders	People or organizations with an interest or share in an undertaking, such as a commercial venture.
start-up	The act of starting up new machinery or equipment after commissioning, or re-starting up machinery or equipment after a temporary shutdown or decommissioning.
steady-state conditions	The normal functioning of a process or equipment, as opposed to start-up and shutdown conditions.
stockpile	A storage supply of something, such as line pipe or soil, to be used later.
strata	Distinct, usually parallel, and originally horizontal beds of rock. An individual bed is a stratum.
stratigraphy	A branch of geology that deals with the arrangement of rock layers.

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strike	The direction taken by a structural surface, such as a fault plane, as it intersects the horizontal. Also known as a <i>line of strike</i> .
substrate	An underlying surface or foundation of a structure or development.
subsurface rights	The rights to exploit oil, gas and mineral resources and to benefit from the development of resources and minerals found beneath the ground.
sustainable development	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
sweet gas	A gas that has no more than the maximum sulphur content, as defined by the specifications for the sales gas from a plant or by a legal body.
talik	Permanently unfrozen ground in regions of permafrost. Usually applies to a layer which lies above the permafrost, but below the active layer, that is, when the permafrost table is deeper than the depth reached by winter freezing from the surface.
TBD	The abbreviation for <i>to be determined</i> .
TDS	The abbreviation for total dissolved solids.
Tertiary	The geological period between about 65 to 2 million years before present.
thaw settlement	Settlement that occurs when a warm pipeline thaws the surrounding frozen soil.
thermokarst lakes	Lakes in an irregular land surface formed in a permafrost region by melting ground ice.
throughput	The amount of material put through a process or pipeline.
throw, fault	The amount of vertical displacement occasioned by a fault.
till	Unsorted sedimentary material deposited directly by, and underneath, a glacier, consisting of a mixture of clay, silt, sand, gravel and boulders. Also known as <i>glacial till</i> .
topography	The configuration of a surface, including its relief and natural and artificial features.
traditional knowledge	Cultural knowledge that is based on direct observation or information passed on orally from other community members, developed from centuries of experience of living off the land.
tripping	The act of pulling the drill string out of the hole or replacing it in the hole. A pipe trip is usually done because the bit has dulled or has otherwise ceased to drill efficiently and must be replaced.

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tundra	A vast treeless zone, lying between the ice cap and the timberline of North America and Eurasia, that has a permanently frozen subsoil.
turbidite	A characteristic sedimentary deposit of the continental rise, formed by a turbidity current and composed of clay, silt and gravel, with the clay on top.
TVD	The abbreviation for true vertical depth.
unconformity	A lack of continuity in deposition between rock strata in contact with one another, corresponding to a gap in the stratigraphic record. Also, the surface of contact between rock beds in which there is a discontinuity in the ages of the rocks.
utilities	The supply of electricity, natural gas, water, sewer drains and other services.
water crossing	A location where a pipeline crosses a stream or a river.
wellbore	The hole drilled by the bit in a well.
well completion	The activities and methods of preparing a well for the production of oil and gas or for other purposes, such as injection.
wellhead	The equipment installed at the surface of the wellbore.
wetlands	A broad group of wet habitats where the water table is usually at or near the surface, or the land is covered by shallow water.
wind rose	A polar graph that indicates wind speed and relative duration according to its direction. Wind roses are useful for determining the most prevalent direction of winds of desired strength.
winter road	A secondary road made of compact snow or ice, often plowed over a frozen lake or ground, and which is impassable in the summer. Also known as an <i>ice road</i> .
wireline	A slender, small diameter, rod-like or thread-like piece of metal that is used for lowering special tools, such as perforating guns, into a well.
workover	One or more of a variety of remedial operations performed on a producing oil or gas well, to try to increase production.
zonal isolation	The practice of separating producing formations from one another by casing, cement and packers for pressure control and maintenance purposes, and to prevent mixing fluids from separate formations. Also known as <i>zone isolation</i> .