# GLOSSARY

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| **°C** | The symbol for degree Celsius. |
| **<** | The symbol for less than. |
| **>** | The symbol for greater than. |
| **%** | The symbol for percent. |
| **abandonment** | The act of permanently stopping operations, discontinuing service, removing facilities and restoring land to a productive state. |
| **abiotic** | Nonliving components, physical or chemical, of the environment, such as temperature, light and nutrients. |
| **Aboriginal** | 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. |
| **active layer** | A surface layer of ground or soil above permafrost that is alternately frozen each winter and completely thawed each summer, i.e., seasonally frozen ground surface above the permafrost. |
| **aeolian** | Materials eroded, transported or deposited by wind action, usually including poorly graded, well-sorted medium to fine sand and coarse silt that is sorted and noncompacted. |
| **alkalinity** | The degree or relative ability of a substance to release hydroxyl ions into solution expressed as a value of 7.0 or greater on the pH scale. A more alkaline substance will have a higher relative ability to release hydroxyl ions and therefore a greater pH. Also, a measure of water's capacity to neutralize an acid. |
| **alluvial** | Pertaining to, or consisting of, alluvium, or material deposited by flowing water. |
| **alluvial fan** | A fan shaped deposit of sediment formed by a stream that exits a valley onto a floodplain. |

**alluvium** Unconsolidated mineral material, usually clay, silt, sand and gravel, deposited by flowing water.

**anchor field** 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.

**ANHIC** The abbreviation for Alberta Natural History Information Centre.

**anhydrite** A rock-forming mineral, $CaSO_4$, which occurs in association with gypsum, limestone, dolomite and salt beds.

**annual** A plant that completes its life cycle in a single growing season.

**annual frequency** Rate of occurrence per year.

**anthropogenic** Materials made or modified by humans.

**aspect** The compass orientation towards which a slope faces.

**avalanche** A large mass of snow, ice, rock, earth or mud, or mixture of these materials, falling or sliding under the force of gravity.

**azonal soils** Any group of soils without well-developed profile characteristics and that resemble the parent material.

**baseline** A surveyed condition that serves as a reference point to which later surveys or assessment are coordinated or correlated.

**baseline information** The current state of the environment or environmental setting for a particular element. This information will help to determine potential environmental effects of a project by providing an environmental reference point for the element, with which to compare future environmental conditions and potential project effects.

**beaded stream** A stream with a series of small pools or lakes connected by short stream segments.

**bedrock** Solid rock that underlies soil or any other unconsolidated surficial cover.

**bentonite** A type of clay derived from the alteration of volcanic ash.

**biennial** A plant having a life cycle that normally takes two seasons, from germination to death, to complete. Flowering biennials usually bloom and fruit in the second season.

**biophysical environment** The components of the earth including:

- land, water and air, including all layers of the atmosphere
- all organic and inorganic matter and living organisms
- the interacting natural systems that include components referred to in the previous bullets

**biotic** Living components of the environment.

**blanket** A thin, widespread sedimentary deposit of relatively uniform thickness that is relatively thin in relation to areal extent.

**blanket slope drainage** A type of drainage that occurs in subdued topography where basin types are not definable. Water flows downslope in a sheet-like manner. Small drainage paths parallel to the slope might appear well defined.

**blocks** An angular particle larger than 256 mm.

**bog** Peatlands consisting primarily of sphagnum mosses, with poor nutrient status and acidic conditions.

**bole** The trunk or stem of a tree.

**borehole** A circular hole made by boring. Also known as a drill hole.

**borrow site** An area that could be excavated to provide material, such as gravel or sand, to be used as fill elsewhere.

**boulder** A large rock with a diameter exceeding 256 mm.

**braided** Referring to an Active Channel zone with diverging and converging channels separated by unvegetated sand or gravel bars. Many channels are dry at moderate and low flows, but fill with water during floods.

**Brunisol soils** Soils with horizons sufficiently developed to exclude them from the Regosolic Order, but lacking the degrees and kinds of horizon development specified for soils of the other orders.

**bryophyte** Plants, including mosses, liverworts and hornworts, which are characterized by their lack of vascular tissues and some other terrestrial adaptations of vascular plants.

**canopy** The cover of branches and foliage formed by tree crowns or the tallest layer of vegetation in an area.

**carbonate rock** A rock, such as limestone, comprising at least 50% carbonates.

**channel** A natural or artificial waterway that periodically or continuously contains moving water, has a definite bed, and has banks that confine the water at low to moderate streamflow.

**characteristic species** Species that occur at a frequency of 40% or greater within the sampled sites of a vegetation type.

**CL** The abbreviation for clearing.

**clay** A soil particle less than 2 μm in diameter.

**closed basin drainage** A type of drainage where water from surrounding slopes collects and ponds in depressions with a perched water table at or near the surface. There is no inlet or outlet channel.

**cobble** A rock fragment larger than a pebble and smaller than a boulder, with a diameter of 64 to 256 mm.

**collapse scar** That portion of a peatland where the whole or part of a palsa or peat plateau has thawed and collapsed to the level of the surrounding peatland. They are characterized by the absence of permafrost, and by vegetation different from that on both the previously unfrozen peatlands and the remnant permafrost peat landforms.

**colluvial** Pertaining to colluvium.

**colluvium** Loose, heterogeneous and incoherent deposit of soil material or rock fragments usually deposited by mass-wasting.

**conglomerate** Cemented, rounded fragments of water-worn rock or pebbles, bound by a cementing substance.

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| **Construction Phase** | The phase of a project preceding the Operations Phase, during which project facilities and infrastructure are assembled and installed on their foundations, and connected and tested to ensure that they operate as designed. |
| **Cretaceous** | The geological period between about 65 and 144 million years before present. |
| **crevasse filling** | Short ridges comprising sand and gravel left by accumulated deposits in glacial crevasses. |
| **Cryosol soils** | Soils formed in either mineral or organic materials, with permafrost within 1 m of the surface, or within 2 m if the active layer of the soil profile has been strongly cryoturbated. They can be associated with wetlands, tundra or taiga forest conditions. |
| **cryoturbation** | The churning and stirring of soil caused by repeated cycles of freezing and thawing. It includes frost heaving and surface subsiding during thaws. Also known as congeliturbation, frost churning, frost stirring, or geliturbation. |
| **Cumulic Regosol soils** | Soils that develop in areas where periodic disturbance or deposition occurs. |
| **DBH** | The abbreviation for diameter at breast height. |
| **deflation** | The removal of loose, dry, fine-grained particles by wind. This is a form of wind erosion. |
| **deflation potential** | The possibility of deflation or wind erosion. |
| **delta** | An area of alluvial deposits, usually triangular in shape, at the mouth of a river or stream. |
| **deposit** | Material left in a new position by a natural transporting agent such as water, wind, ice, or gravity, or by the activity of people. |
| **depression** | An area of lower elevation than the surrounding terrain, delimited by side slopes within the depression that are steeper than the surrounding terrain. |
| **diameter at breast height** | The stem diameter of a tree measured at 1.3 m above the ground on the uphill side of the tree. |

**discontinuous permafrost** — A zone of permafrost containing patches of unfrozen ground, such as is beneath rivers and lakes.

**disturbance** — A force, e.g., fires, floods, landslides, that causes change in the structure, composition and ecological processes or any combination thereof, of a habitat or ecological system.

**diversity** — The variety and abundance of organisms and communities, and their patterns of distribution within an area.

**dolomite rock** — Sedimentary rock containing more than 50% by weight of the mineral dolomite [$CaMg(CO_3)_2$].

**drainage** — The pattern followed by the waters of an area as they pass or flow off in surface or subsurface streams.

**drumlin** — A low, smoothly rounded, elongate hill of glacial drift built under the margin of the ice and shaped by its flow, or carved out of an older moraine by re-advancing ice. It usually has an elliptical base and arched profile with a long gentle slope pointing in the downstream direction of flow of the former glacier.

**dune** — A low mound, ridge, bank or hill of wind-blown, usually sand-sized material that occurs along shorelines and in deserts.

**Dystric Brunisols** — Soils that develop in acidic parent materials, usually noncarbonated, with no organic surface horizons.

**earthflow** — A mass-movement landform and process characterized by downslope translation of soil and weathered rock over a discrete basal shear surface, i.e., landslide, within well defined lateral boundaries.

**ecological land classification** — A means of classifying landscapes by integrating landforms, soils and vegetation components.

**ecological zone** — A regional ecological area used on the Mackenzie Gas Project to describe regional vegetation differences based on changes in climate, physiography, terrain, soil and permafrost with increasing latitude along the Mackenzie Valley. Also known as *ecozone*.

**ecosystem**

An integrated and stable association of all living organisms and the nonliving physical and chemical factors of their environment, within a defined physical location.

**ecozone**

A regional ecological area developed for Canada by the Ecological Stratification Working Group, and used as a basis for the ecological zones in the Mackenzie Gas Project.

**EIS**

The abbreviation for Environmental Impact Statement.

**ELC**

The abbreviation for ecological land classification.

**eluviation**

The downward movement of soluble or suspended material in a soil by groundwater percolation.

**endemic species**

A species that is native and indigenous to a particular area, and which has a limited geographic range.

**environmental effect**

For a project, any change that the project might cause in the environment, including any change it might cause to a listed wildlife species, its critical habitat or the residences of individuals of that species, as defined in the *Species at Risk Act*. Also, any effect of any project-induced change on:

- health and socio-economic conditions
- physical and cultural heritage
- the current use of lands and resources for traditional purposes by aboriginal people
- any structure, site or thing that is of historical, archaeological, paleontological or architectural significance

Also, any change to the project that might be caused by the environment.

**ericaceous shrub**

A low, woody shrub in or related to the plant family Ericaceae, i.e., heather family.

**erosion**

The result of processes that entrain and transport earth materials along coastlines, in streams, and on hillslopes. Wind, water and ice are common agents through which forces are applied to resistant rocks, soils, or other unconsolidated materials.

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| **esker** | A winding ridge of irregularly stratified sand, gravel and cobbles, deposited under the ice by a rapidly flowing glacial stream. |
| **ESWG** | The abbreviation for Ecological Stratification Working Group. |
| **Eutric Brunisol soils** | Soils that develop in basic parent materials, usually carbonated, with no organic surface horizons. |
| **evaporites** | Deposits of bedded sedimentary rocks comprising salts precipitated during evaporation of surface or near-surface brines derived from seawater or continental waters. Dominant minerals in ancient evaporite beds are anhydrite, varying amounts of gypsum and halite. |
| **facilities** | Structures of the gathering and gas pipeline systems, including compressor and pump stations, block valves, pigging facilities, heater stations and meter stations. |
| **fan** | A gently sloping, fan-shaped landscape feature usually found at a place where there is a decrease in gradient. |
| **fault** | A fracture in rock along which the adjacent rock surfaces are differentially displaced. |
| **fault zone** | A fault expressed as an area of numerous small fractures. Also known as distributed fault. |
| **fen** | Peatlands consisting primarily of sedges and mosses, with water at or near the surface. The nutrient status can range from poor to medium and the pH can range from acidic to basic. |
| **fibric** | Having more than two-thirds of the organic soil material consisting of recognizable plant tissue. |
| **Fibrisol soils** | Soils composed primarily of undecomposed fibric organic material. They are predominantly *Sphagnum* moss in peat deposits. |
| **fine-grained** | A combination of well stratified clay, silt and fine sand. |
| **flark** | The wet areas of a string fen, usually dominated by sedges. |

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| **floodplain** | A low-lying area adjacent to a river or lake that can be inundated during seasonally high water levels, i.e., floods. |
| **fluvial** | Pertaining to or produced by the action of a stream or river. Also, pertaining to anything existing, growing, or living in or near a river or stream. |
| **fluvial deposit** | Pertaining to material transported by, suspended in, or deposited by streams and rivers, including gravel, sand, silt and sometimes clay. Also known as alluvial deposits. |
| **forb** | Any herbaceous plant, other than a grass, i.e., a weed or a broadleafed, non-woody plant. |
| **frost boil** | An accumulation liberated from ground ice by accelerated spring thawing.<br><br>A low mound of excess water and mud formed by local differential frost heaving at a location favourable for the formation of segregated ice, and accompanied by the absence of an insulating cover of vegetation. |
| **frost bulb** | A frozen zone, typically formed around a chilled pipe, in otherwise unfrozen ground. |
| **frost heave** | The uneven lifting or upward movement as a result of internal frost action from the subsurface freezing of water and growth of ice lenses or masses. |
| **gas pipeline** | The pipeline that transports compressed natural gas from the Inuvik area facility to the southern terminus near the Northwest Territories–Alberta boundary. |
| **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 Niglintgak lateral, Taglu lateral, Parsons Lake lateral and Storm Hills lateral. |
| **gathering system** | A system of pipelines, compressor stations and other related facilities that gather natural gas and associated NGLs from the anchor fields and transport it to the gas pipeline system located at the Inuvik area facility. |
| **genetic materials** | In relation to the soil or landform, the parent or source material for a soil type. |

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| **geomorphological process modifiers** | Used to further describe geomorphological processes, wherever it is possible to be more specific about the processes acting on a landscape. |
| **geomorphological process** | Natural mechanism of weathering, deposition and erosion that modifies surficial materials and landforms at the earth's surface. It can be independent of the origin of material and landforms. |
| **geotechnical** | The application of scientific methods and engineering principles to the acquisition, interpretation, and use of knowledge of materials of the earth's crust to the solution of civil engineering problems. |
| **geothermal** | Pertaining to heat within the earth. |
| **glacial deposit** | A general term for material transported by glaciers or icebergs, and deposited directly on land or in the sea. Also called glacial drift. |
| **glacial outwash** | Sand and gravel transported away from a glacier by streams of meltwater and deposited along a pre-existing valley or plain in a form similar to an alluvial fan. |
| **glaciated terrain** | Any land surface changed or modified by either glacial erosion or glacial deposition. |
| **glaciofluvial** | Materials moved by glaciers and subsequently sorted and deposited by streams flowing from the melted ice. |
| **glaciolacustrine** | Pertaining to lakes fed by melting glaciers, or to the deposits forming in the lakes. |
| **gley** | Soil mottling, caused by partial oxidation of and reduction of constituent ferric iron compounds due to conditions of intermittent water saturation. |
| **Gleyed Regosol soils** | Soils that develop in areas where soil development is impeded and the drainage regime is imperfect. |
| **Gleysol soils** | Soils of the Gleysolic Order that develop under wet conditions and permanent or periodic reduction. They are typically found in low-lying, poorly drained locations, or in areas with groundwater discharge. They do not contain a thick organic horizon or eluviated or illuviated horizons. |

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| **GPS** | The abbreviation for global positioning system. |
| **graminoid** | A plant with a grass-like growth form, including rushes, grasses and sedges, which are members of the Cyperaceae and Poaceae families. |
| **gravel** | A loose or unconsolidated deposit of rounded particles between 2 and 64 mm, such as a mixture of cobbles and pebbles, which might include interstitial sand. |
| **Grey Luvisol soils** | Soils of the Luvisolic Order that might contain an organic surface horizon. The mean annual soil temperature of these soils is usually less than 8$^{o}$C. Parent materials are usually high in base saturation and commonly calcareous, but some Grey Luvisols have developed in acid materials. |
| **ground truth survey** | Measuring of various properties, such as temperature and land use, conducted on the ground to validate or calibrate observations made from satellites or aircraft. |
| **groundwater** | The water within the earth that supplies wells and springs. |
| **GSC** | Abbreviation for the Geological Survey of Canada. |
| **gully** | A long, narrow ravine formed by the modification of unconsolidated and consolidated surfaces by various processes such as running water, mass movement and snow avalanching. |
| **gypsum** | A naturally occurring crystalline form of the mineral calcium suphate. |
| **ha** | The abbreviation for hectare. |
| **habitat** | The place or environment where a plant or animal naturally and normally lives and grows. |
| **heath** | Level to undulating upland areas with a dense cover of low ericaceous shrubs and other dwarf shrubs. |
| **herb** | Tender plant, lacking woody stems. It is usually small or low, annual or perennial, broadleaf, i.e., forb or graminoid. |
| **horizon** | See soil horizon and mineral horizon. |

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| **horsetail** | Plants with hollow and rush-like stems, and scale-like leaves forming sheaths at the nodes. They are of the genus *Equisetum* and are allied to the ferns. |
| **hummock** | A rounded or conical mound or hillock, usually of equal dimensions and not ridge-like. |
| **hummocky** | An assemblage of nonlinear, often chaotic forms that are rounded or irregular in cross-profile. |
| **hydric** | Soil conditions in which the water table is at or above the soil surface all year. |
| **hydrogeology** | The science dealing with groundwater, including its properties and role in modifying the earth, primarily by erosion and deposition. |
| **hydrology** | The science dealing with the waters of the earth, including their properties, circulation, distribution and reaction with the environment. |
| **hydrophyte** | A plant that grows in water or saturated soils. Also, a plant requiring large amounts of water for growth. |
| **hygric** | Soil conditions in which water is removed slowly enough to keep soil wet for most of the growing season. |
| **ice-wedge polygon** | A large nonsorted polygon of bordered by intersecting ice-wedges occupying fissures formed by contraction of the ground and comprising polygonal patterns on ground underlain by permafrost. |
| **igneous rock** | One of the three major groups of rocks that make up the crust of the earth. The other two groups are metamorphic rocks and sedimentary rocks. Igneous rocks have congealed from a molten mass, and comprise crystals or glass or both, depending on the conditions of formation. |
| **illuviation** | The deposition of colloids, soluble salts, and small mineral particles in an underlying layer of soil. |
| **imperfectly drained soil** | Soil from which water is removed sufficiently slowly in relation to supply to keep it wet for a substantial part of the growing season. |

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| **incised** | Referring to a stream meander or notch that is downcut or entrenched into the surface. Also the steep-sided walls of a small stream and its bed. |
| **indicator species** | Plant species associated primarily with a certain vegetation type. These species reveal specific site conditions or environmental traits. |
| **indurated layer** | A soil layer that has become hardened, usually by the cementation of soil particles. |
| **induration** | The hardening of a rock material by the application of heat or pressure or by the introduction of a cementing material. Also, the hardening of a soil horizon by chemical action to form a hardpan. |
| **infrastructure** | Basic facilities, such as transportation, communications, power supplies and buildings, which enable an organization, project or community to function. |
| **inundated terrain** | Terrain not normally submerged that is temporarily under standing water because of a high water table or flooding. |
| **kame** | A low, long, steep-sided mound of glacial drift, commonly stratified sand and gravel, deposited by a subglacial stream as an alluvial fan or delta at the terminal margin of a melting glacier. |
| **karst topography** | The landscape surface that forms over limestone, dolomite or gypsum, by dissolving or solution, characterized by sinkholes, caves and underground drainage. |
| **karstification** | The formation of karst features by the solutional or mechanical action of water in a region of limestone, gypsum or other bedrock. |
| **kettle** | A basin or bowl-shaped depression in surficial materials often containing a lake that was formed by the melting of a detached block of stagnant ice that was buried in the morainal deposit. |
| **km** | The metric symbol for kilometre. |
| **lacustrine** | Pertaining to, produced by, or inhabiting a lake or lakes. |

**lacustrine sediment** — Sediment that has settled from suspension and underwater gravity flow, such as turbidity currents, in bodies of standing fresh water.

**landform** — A physical, recognizable, naturally formed feature of land, having a characteristic shape and produced by natural causes. Landforms include major forms such as plains, mountains or plateaus, and minor forms such as hills, valleys or alluvial fans.

**landsat** — A specific satellite or series of satellites used for earth resource remote sensing. Satellite data can be converted to visual images for resource analysis and planning.

**landscape** — The fundamental features of a specific heterogeneous land area, including the biological and physical interactions between and within its composite ecosystems.

**lateral** — A pipe that branches away from the central and primary part of the system.

**levee** — A raised embankment along the edge of a river channel.

**Levis Gleysol soil** — Soils that occur commonly on poorly drained sites in association with Luvisolic soils and in depressions. They usually contain an eluviated surface horizon followed by an illuviated horizon. These horizons are not sufficiently developed for inclusion in the Luvisolic Order.

**limestone** — A sedimentary rock composed chiefly of calcium carbonate ($CaCO_3$), principally in the form of calcite.

**linked hollow drainage** — A type of drainage where water flows through a channel-like depression between ponds or collecting basins, with a perched water table at or near the surface.

**lithification** — Conversion of a newly deposited sediment into coherent and solid rock. Also known as lithifaction.

**littoral** — The shallow shore area of a waterbody where light can usually penetrate to the bottom, and that is often occupied by rooted aquatic plants. The extent of the plants might mark the boundaries of the zone.

**loam** Soils intermediate in texture and properties between fine and coarse-textured soils. It includes all textural classes having *loam* or *loamy* as a part of the class name, such as clay loam or loamy sand.

**LSA** The abbreviation for local study area.

**Luvisol soils** Soils with an eluvial horizon and illuvial horizon. They develop under forest or forest–grassland transition, in a moderate to cool climate, and are associated with well drained, fine-textured parent materials.

**m** The metric symbol for metre.

**mantle variable** A layer or discontinuous layer of surficial material of variable thickness, 0 to 2 m, that fills or partly fills depressions in an irregular substrate. It is usually too thin to mask prominent irregularities in the underlying material.

**marl** A deposit of crumbling earthy material composed principally of clay with magnesium and calcium carbonate. It is used as a fertilizer for lime-deficient soil.

**mean** The sum of observations, or items, in a sample divided by the number of observations in the sample.

**meander** A stream characteristic of clearly defined curves, bends, loops, turns, or windings that are a regular and repeated pattern of bends with uniform amplitude and wave length.

**median** The middle measurement in an ordered set of data.

**meltwater** Water derived from melting ice or snow, especially glacier ice.

**mesic** A soil with a mean annual temperature between 8 and 16°C, with a summer–winter variation of more than 5°C.

**Mesisol soil** Soils that are slightly more decomposed than Fibrisols. They contain moderately decomposed organic material and are found in areas that favour slightly greater rates of decomposition than Fibrisol locations.

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| **metamorphic rock** | One of the three major groups of rocks that make up the crust of the Earth. The other two groups are igneous rocks and sedimentary rocks. Metamorphic rocks are pre-existing rock masses in which new minerals, textures or structures are formed at higher temperatures and greater pressures than those normally present at the earth's surface. |
| **metastable soil** | Soil that is stable with respect to small disturbances but capable of movement if sufficiently disturbed. |
| **microsite** | A small area or feature, which exhibits localized characteristics different from the surrounding area, and therefore potentially supports plants or communities uncommon in the surrounding area, e.g., microsites created by a rock outcrop with thin soils, or the cool, shaded areas created in a site by the presence of slash. |
| **mineral horizon** | Soil layers that contain less than 17% organic carbon. |
| **mineral soil** | Soil containing primarily mineral materials, the presence of which predominantly determines the properties of the soil. Mineral soil generally evolves from fluvial, lacustrine or glacier-deposited parent materials, and except for an organic surface or litter layer, contains less than 30% organic material by weight. |
| **mineral wetland** | Area that is influenced by excess water but produces little or no peat. |
| **mitigation** | The elimination, reduction, or control of a project's adverse environmental effects, including restitution for any damage to the environment caused by such effects through replacement, restoration, compensation or other means. |
| **mixed bog and fen** | Areas consisting of both bogs and fens. |
| **mixed fragments** | A mixture of rounded and angular particles larger than 2 mm. |
| **mm** | The metric symbol for millimetre. |
| **moderately well-drained soil** | Soil from which water is removed slowly in relation to supply because of imperviousness or lack of gradient. |
| **moisture regime** | The available moisture supply for plant growth on a relative scale, assessed through an integration of species composition and soil, and site characteristics. |

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| **monitoring** | Resolving specific outstanding environmental issues, observing the potential environmental effects of a project, assessing the effectiveness of mitigation measures undertaken, identifying unexpected environmental issues and determining the action required based on the result of these activities. |
| **moraine** | An accumulation of glacial drift deposited by a glacier. It is well-compacted to non-compacted material that is nonstratified and contains a heterogeneous mixture of particle sizes, often in a matrix of sand, silt and clay. |
| **mottled** | Irregularly marked with spots of different colours. |
| **mudslide** | A slow-moving mudflow which moves mainly by sliding upon a discrete boundary shear surface. |
| **mudstone** | A blocky or massive, fine-grained sedimentary rock in which the proportions of clay and silt are about equal. |
| **NDVI** | The abbreviation for normalized difference vegetation index. |
| **NGTL** | The abbreviation for NOVA Gas Transmission Ltd. |
| **NGTL interconnect facility** | The southernmost point of the gas pipeline where it connects either directly with the natural gas pipeline system in northwestern Alberta or to a third-party extension that subsequently connects to the existing system. |
| **Niglintgak** | The anchor field to be developed by Shell. The field includes three well pads, one gas conditioning facility, flow lines and supporting infrastructure. The gas conditioning facility might be barge or land based. |
| **nutrient** | An environmental substance, i.e., element or compound, such as nitrogen or phosphorus, that is necessary for the growth and development of plants and animals. |
| **nutrient regime** | A measure of the essential nutrients available for plant growth, assessed through an integration of species composition and soil and site characteristics. |
| **occasional frequency** | Frequency of occurrence is more frequent than annually, e.g., inundated occasionally and unpredictably because of high precipitation or storms. |
| **Organic Cryosol soil** | The soil of peatlands, underlain by permafrost. |

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| **organic matter** | The fraction of a soil that contains plant and animal residues in various stages of decomposition. |
| **Organic soil** | Any soil comprising at least 30% organic matter. Most are saturated throughout the year and occur in poorly and very poorly drained depressions. |
| **Orthic Regosol soil** | The soil that develops in areas where periodic disturbance or deposition occurs. |
| **overburden** | The loose soil, silt, sand, gravel or other unconsolidated materials overlying bedrock. |
| **palsa** | A mound of peat that develops as a result of the formation of a number of ice lenses beneath the surface of the ground. |
| **parent material** | The unconsolidated mineral and organic material from which soil develops. |
| **Parsons Lake** | The anchor field to be developed by ConocoPhillips and ExxonMobil. Initially, the field will consist of a north pad for the well sites and gas conditioning facility. A second well pad will be developed five to 10 years after the north pad. |
| **patterned fen** | Low-lying peatland characterized by patterned ridges and pools, e.g., strings and flarks, aligned perpendicular to the water flow and parallel to surface elevation. |
| **patterned ground** | A collective term for the regular surface features, such as stone polygons, frost boils and stone stripes, characteristic of ground that is subject to intensive freeze–thaw action. |
| **PD** | The abbreviation for permanent disturbance. |
| **peat** | An organic deposit consisting of decayed or partially decayed, humified plant materials that have decomposed in wet or waterlogged, anaerobic environments. |
| **peatland** | An organic wetland with accumulations of more than 40 cm of peat. |
| **perched water** | Groundwater that is unconfined and separated from an underlying main body of groundwater by an unsaturated zone. |
| **perched water table** | The upper surface of a body of perched groundwater. Also known as the apparent water table. |

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| **permafrost** | Perennially frozen ground, occurring wherever the ground temperature remains below 0°C for two or more consecutive years. |
| **permafrost controlled drainage** | A type of drainage where water flow is controlled by the frozen layer-perched water table. |
| **pH** | A measure of the relative acidity or alkalinity of a liquid. The pH scale ranges from 1 to 14, with 7 being neutral, 1 being the most acidic and 14 being the most alkaline. |
| **physiognomic** | Based on the external appearance, physical structure or growth form of a plant or plant community. |
| **physiognomy** | The external appearance, physical structure or growth form of a plant or plant community. |
| **pingo** | An ice-cored hill, forced up by frost-heaving hydrostatic pressure in an area underlain by permafrost. It usually forms in drained or partially drained lake basins. |
| **pipeline** | A line used for transmitting oil, gas or any other commodity and that connects a province with any other province or provinces or extends beyond the limits of a province or the offshore area as defined in section 123 of the *National Energy Board Act*. |
| **pipeline corridor** | The 1-km-wide area that generally centres on the combined right-of-way for the NGL and gas pipelines, from the Inuvik area facility to the southern terminus. |
| **PL** | The abbreviation for pipeline. |
| **plain** | Any flat area at low elevation |
| **plant community** | A distinct grouping of plant species often associated with a particular set of environment conditions, such as terrain, soil, permafrost and water. Also known as *vegetation community*. |
| **polygon** | Patterns of polygonal cracks formed on a level or gently sloping surface from the displacement of rocks, soil and peat due to frost or ice action. |
| **polygonal ground** | A ground surface consisting of polygonal arrangements, i.e., polygons, of rock, soil, and vegetation, formed on a level or gently sloping surface by frost action. |

**poorly drained soil** — Soil from which water is removed so slowly in relation to supply that the soil remains wet for most of the time that it is not frozen.

**production area** — The area that encompasses all project components located north of the Inuvik area facility, including Niglintgak, Taglu and Parsons Lake, the gathering pipelines, facilities, infrastructure, and the 1-km-wide area surrounding each of these project components.

**progressive bank erosion** — Bank erosion indicated by the presence of undercut banks.

**project, the** — The abbreviation for the Mackenzie Gas Project.

**quadrat** — A sampling unit of a predefined size that is used to repeatedly sample vegetation in a given area. Quadrats may be rectangular, square or circular in shape and vary in size, depending on the vegetation community being sampled.

**rapid mass movement** — Rapid downslope movement by falling, rolling, sliding or flowing of dry, moist or saturated debris derived from surficial material or bedrock.

**rapidly drained soil** — Soil from which water is removed rapidly in relation to supply.

**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 might 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.

**Regosol soil** — Azonal soils from deep unconsolidated deposits that have no definite genetic horizon. They do not exhibit weathering or horizon formation typical of other soils, and are associated with active landforms, such as floodplains, colluvial slopes, beaches, thaw slumps and debris flows.

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| **relict** | Referring to a topographic feature that remains after other parts of the feature have been removed or have disappeared. Also, pertaining to a mineral, structure, or feature of a rock which represents features of an earlier rock and which persists in spite of processes tending to destroy it, such as metamorphism. |
| **remote sensing** | Measurement of some property of an object or surface by means other than direct contact. It usually refers to the gathering of scientific information about the earth's surface from great heights and over broad areas, using instruments mounted on aircraft or satellites. |
| **right-of-way** | The strip of land a company has acquired, for which it has obtained the rights to construct and operate a pipeline. |
| **riparian** | Situated or dwelling on the margin of a river or other waterbody. |
| **rolling** | An assemblage of parallel or sub-parallel linear forms with subdued relief. |
| **RSA** | The abbreviation for regional study area. |
| **rubble** | Angular particles between 2 and 256 mm, which might include interstitial sand. In general, little or no fine material will be visible on a rubble surface. At depth, sand and smaller particles might occupy the interstices between the coarser particles. |
| **runnel** | A trough-like hollow on a slope that carries water drainage off the slope. |
| **sand** | Particles between 0.0625 and 2 mm in diameter. |
| **sandstone** | Consolidated rock consisting of sand grains cemented together. |
| **scour** | Localized erosion of substrate from the streambed by flowing water, when water velocity is high. |
| **sediment** | Organic or inorganic solid fragmented material from weathered rocks that is suspended in, transported by, and eventually deposited by air, water, or ice. |

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| **sedimentary rock** | Rock formed by the deposition and lithification of material derived from existing rocks. |
| **seep** | A small groundwater discharge that slowly oozes to the surface of the ground or into a stream. |
| **seepage** | The gradual movement of water through small openings and spaces in soil. |
| **seismic data** | Detailed information obtained from earth vibration produced naturally or artificially, e.g., as in geophysical prospecting. |
| **seral stages** | The stages of ecological succession of a plant community, for example, from young stage to old stage. The characteristic sequence of biotic communities that successively occupy and replace each other, altering in the process, some components of the physical environment over time. |
| **shale** | A fine-grained laminated or fissile sedimentary rock made up of silt or clay-sized particles. It usually comprises about 1/3 quartz, 1/3 clay materials and 1/3 minerals, including carbonates, iron oxides, feldspars and organic matter. |
| **silt** | Fine soil particles between 0.002 and 0.05 mm in diameter, carried by flowing water and deposited as sediment on the bottom or shore of a lake or stream. |
| **sinkhole** | A closed surface depression in regions of karst topography produced by the subsurface limestone geology or the collapse of cavern roofs. |
| **slope** | The percentage of vertical rise relative to the horizontal distance, e.g., a level site of 0° has 0% slope, and 45° is equivalent to 100% slope. |
| **slow mass movement** | Slow downslope movement of masses of cohesive or non-cohesive surficial material or bedrock by creeping, flowing or sliding. |
| **slump** | See earthflow. |
| **soil horizon** | A layer of surface soil or soil material parallel to the land surface, about 5 to 30 cm deep, that differs from adjacent layers in properties such as colour, structure, texture, consistency, and chemical, biological and mineralogical composition. |

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| **solifluction** | Slow gravitational downslope movement of saturated nonfrozen overburden across a frozen or otherwise impermeable substrate. |
| **sp.** | The abbreviation for species (singular). |
| **species** | A group of organisms that actually or potentially interbreed, and are reproductively isolated from all other such groups, i.e., a taxonomic grouping of genetically and morphologically similar individuals. It is the taxonomic category below genus. |
| **species composition** | The species present in a given sampling area. |
| **species diversity** | A description of a biological community that includes both the number of species and their relative abundance. Provides a measure of the variation in the number of species in a region, depending on the variety of habitats and resources within habitats, and in part, on the degree of specialization of species to particular habitats and resources. |
| **spp.** | The abbreviation for species (plural). |
| **springfed** | Streams or waterbodies maintained by a flowing spring or groundwater source. |
| **ssp.** | The abbreviation for subspecies. |
| **string** | A narrow part of well-drained, elevated land found in patterned wetlands, usually dominated by shrubs. |
| **study area** | The area within the spatial boundaries of the scope of the environmental and socio-economic effects assessment. |
| **subhydric** | Soil conditions in which the water table is at or near the surface for most of the year, i.e., less water than hydric, more water than hygric. |
| **subhygric** | Areas in which the soil is wet for a significant part of the growing season, i.e., a moderate supply of water with less water than hygric, more water than mesic. |
| **submesic** | Areas in which there is an intermediate supply of water, i.e., less water than mesic, more water than subxeric. |

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| **subspecies** | A distinct taxonomic subdivision of a species, especially one geographically or ecologically isolated from other populations of the species. |
| **subxeric** | Areas in which there is a limited supply of water, i.e., less water than submesic, more water than xeric. |
| **succession** | The change in community composition over time following a major disturbance. |
| **Taglu** | The anchor field to be developed by Imperial Oil Resources Limited. It consists of one site, which will include the drill sites, gas conditioning facility, flow lines and supporting infrastructure. |
| **taiga** | A large temperate zone characterized by coniferous forests overlying glaciated areas, and areas of continuous and discontinuous permafrost. |
| **talus** | A sloping mass of loose, coarse rock fragments accumulated at the foot of a cliff or steep slope. |
| **tectonics** | A branch of geology that deals with regional structural and deformational features of the earth's crust, including the mutual relations, origin, and historical evolution of the features. |
| **terrace** | A single step-like form or assemblages of step-like forms where each form consists of a scarp face and a horizontal or gently inclined surface above it. |
| **textural classes** | The physical categories of soil according to particle size, including: blocks, boulder, clay, mixed fragments, fine-grained, gravel, organic, rubble, sand, till, silt. |
| **texture** | Refers to the size, shape and sorting of particles in sediments and the proportion and degree of decomposition of plant fibre in organic sediments. |
| **thaw–flow slide** | Slope failure or landslide caused by the thawing of permafrost (see also earthflows). |
| **thermokarst subsidence** | Subsidence created by melting of permafrost by heat transfer from waterbodies, either streams or lakes. |

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| **thermokarst topography** | An irregular land surface formed in a permafrost region by melting ground ice. |
| **thick blanket** | A layer of unconsolidated material thick enough to mask minor irregularities of the surface of the underlying material, but still conforming to the general underlying topography. |
| **till** | Unsorted sedimentary material deposited directly by, and underneath, a glacier, comprising a mixture of clay, silt, sand, gravel and boulders. |
| **toe slope drainage** | The drainage that occurs at the base of a slope, and is not confined by a basin or hollow. Water is received from upslope, sheet or channelled flow. |
| **tundra** | A treeless zone between the ice cap and the tree line of North America and Eurasia, characterized by a short growing season and permanently frozen subsoil. Tundra refers both to the region and to the vegetation growing within it. |
| **Turbic Cryosol soils** | Mineral soils strongly affected by cryoturbation or frost churning that generates various forms of patterned ground. |
| **tussock** | A tuft or clump of graminoid plants forming a small hump. |
| **understorey** | A foliage layer occurring beneath, and shaded by, the main canopy of a forest. |
| **undifferentiated** | Referring to a layered sequence of several types of surficial material often outcropping on steep, erosional (scarp) slopes or rounded crests. |
| **undulating** | Gently sloping hill and hollow with multidirectional slopes. Local relief is generally greater than 1 m. |
| **upland** | Terrain with sufficient topographical relief that the communities and processes of the site are not influenced by a surface or near surface water table, and in which riparian vegetation or aquatic processes do not persist. |
| **valued component** | Characteristic or features that represent important environmental or socio-economic conditions identified by assessment specialists, communities or stakeholders. |
| **var.** | The abbreviation for variety. |

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| **variety** | An individual or group usually fertile within the species to which it belongs, but differing from the species type in some qualities capable of perpetuation. |
| **vascular** | Referring to specialized tissues used for the transport of water, nutrients and photosynthates throughout a plant body. |
| **vascular plant** | Plants, such as grasses or trees, which have a vascular or conductive system. |
| **vegetation community** | A distinct grouping of plant species often associated with a particular set of environmental conditions such as terrain, soil, permafrost and water. Also known as *plant community*. |
| **vegetation type** | A vegetation community or complex of communities that can be identified on air photos and is large enough to map. Vegetation types are clearly defined and named. |
| **veneer** | A layer of unconsolidated materials too thin to mask the minor irregularities of the surface of the underlying material. Between about 10 and 100 cm in thickness and possesses no constructional form typical of the material genesis. |
| **very poorly drained soil** | Soil from which water is removed from so slowly that the water table remains at or near the surface for most of the time when the soil is not frozen. |
| **very rapidly drained soil** | Soil from which water is removed very rapidly in relation to supply. |
| **waterbody** | A body of water up to the high-water mark, including canals, reservoirs, oceans and wetlands, but not including sewage or waste treatment lagoons. |
| **well drained soil** | Soil from which water is removed readily, but not rapidly. |
| **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. |
| **WRP** | The abbreviation for winter road, permanent. |
| **WRT** | The abbreviation for winter road, temporary. |
| **xeric** | Referring to areas where water is rapidly drained in relation to supply, and soil is moist for brief periods following precipitation. |