



STAR-ORION SOUTH DIAMOND PROJECT
ENVIRONMENTAL IMPACT ASSESSMENT

APPENDIX 1-B

Glossary

Definitions are taken directly or adapted from *Soil and Environmental Science Dictionary* (Gregorich et al. 2001)



A, Ae, Ah, Ahe, Aeg, Ahg horizon	See <i>horizon, soil</i> .
Acid deposition	Acidic material arising from air contaminants such as sulphur and nitrogen oxides, which is introduced to ground and water surfaces as wet deposition from precipitation, dry deposition from particle fallout, and acid fog.
Acid(ic) soil	A soil having a pH of less than 7.0.
Aggregate	A group of soil particles cohering so as to behave mechanically as a unit.
Alkaline soil	A soil having a pH greater than 7.0.
Alluvium, alluvial deposit	A general term for all detrital material deposited or in transit by streams, including gravel, sand, silt, clay and organic debris, and all variations and mixtures of these.
Archaeology	The study of past cultures through the scientific investigation of their material remains.
Artifact	Any object used or modified by people
Artifact Find	A category for archaeological sites consisting of five or fewer artifacts.
Artifact Scatter	A category for archaeological sites consisting of more than six artifacts
Artifact/Feature	A category for archaeological sites consisting of a combination of both artefacts.
Aspect	The compass direction toward which a slope faces (expressed in units of degrees with zero degrees indicating north).
Available nutrients	That portion of any element or compound in the soil that can readily be absorbed and assimilated by growing plants.
B, Bt, Bm, Bg, Btg	See <i>horizon, soil</i> .
Bedrock	The solid rock (harder than 3 on Moh's scale of hardness) underlying soil and the regolith in depths ranging from zero (where exposed to erosion) to several hundred metres.
Bog	A peat-covered area or peat-filled wetland, generally, with a high water table. The water table is at or near the surface. The surface is often raised or level with the surrounding wetlands. It is virtually unaffected by the nutrient-rich groundwaters from the surrounding mineral soil, resulting in groundwater that is generally acid and low in nutrients. The dominant peat materials are sphagnum and

	forest peat underlain, in places, by fen peat. The associated soils are Fbrisols, Mesisols, Humisols and Organic Cryosols. Bogs may be treed or treeless and they are usually covered with <i>Sphagnum</i> and feather mosses, and ericaceous shrubs.
Boulder	Coarse fragment greater than 0.6 m in diameter in soil science, or greater that 256 mm in geological references.
Bulk density (soil)	The dry mass of dry soil per unit of bulk volume, expressed in SI units (kg/ m^3).
C, Ck, Cg, Ckg	See <i>horizon, soil</i> .
Cairn	A mound of cobbles, often constructed on a hilltop usually functioning as a burial cover, cache cover, drive line, or landscape marker.
Calcareous (soil)	Soil containing sufficient calcium carbonate, often with magnesium carbonate, to effervesce visibly when treated with cold 0.1 N hydrochloric acid.
Canada Land Inventory (CLI)	A national level mapping of multi-disciplinary land ratings. The rating system, as it applies to agricultural soil, is based on seven classes of agricultural land capability. Class 1 lands have the highest and Class 7 lands the lowest capability to support agricultural land use activities. Subclasses are used to identify specific limiting factors for each class.
Capability (land)	An evaluation of land performance that focuses on the degree and nature of limitation imposed by the characteristics of a land unit on a certain use, assuming a specific management system. Capability is determined by characteristics such as climate, landform, slope, soils, geology and current vegetation.
Ceramics	Clay artifacts, such as vessels, that have been intentionally fired
Clay	(i) As a particle size term: a size fraction less than 0.002 mm equivalent diameter, or some other limit (geology or engineering). (ii) As a rock term: a natural, earthy, fine grained material that develops plasticity with a small amount of water. (iii) As a soil term: a textural class. See also texture, soil. (iv) As a soil separate: a material usually consisting largely of clay minerals but commonly also of amorphous free oxides (sesquioxides) and primary minerals.
Coarse fragments	Rock or mineral particles (harder than 3 on Moh's scale of hardness) larger than 2 mm in diameter. Coarse fragments in soil are: gravels or channers (up to 0.08 m in diameter or 0.15 m in

	length), cobbles or flags (0.08-0.25 m diameter or 0.15-0.38 m length), and stones (greater than 0.25 m diameter or 0.38 m length).
Colour	See Munsell colour system.
Compaction	Increase in soil bulk density because of mechanical forces, involving the translocation and resorting of textural components in the soil (sand, silt, and clay particles), destruction of soil aggregates, and collapse of aeration pores. Compaction is assisted by high moisture contents. When the mechanical force is great enough, and bearing strength is reduced due to factors such as high soil moisture content, rutting can occur. The effects of compaction and rutting are manifested by changes in water infiltration rates, soil heat flux, root penetration and oxygen supply in the soil. All of these conditions may influence soil quality and, ultimately, soil productivity. The extent of the effect on the soil depends on soil wetness, applied stress and number of passes with machinery.
Compaction hazard	The susceptibility of soil to water compaction.
Core	A stone from which flakes have been intentionally removed.
Debitage	Waste by-products from stone tool manufacture. This includes flakes and shatter.
Deposition, deposit	The accumulation of material left in a new position by a natural transporting agent such as water, wind, ice or gravity; or by human activity.
Depression, depressional	Describing an area with elevation lower than that of the surrounding area; any hollow, basin, or flat, low-lying area in the landscape.
Disturbed land	Area where vegetation, topsoil, or overburden is removed, or where topsoil, spoil and processed waste are placed (as in mining).
Drainage	The removal of excess surface water or groundwater from land by natural runoff and percolation, or by surface or subsurface drains.
Eluvial horizon	A soil horizon that has been formed by the process of eluviation.
Eluviation	The transportation of soil material in suspension or in solution in the soil by the downward or lateral movement of water.
Eolian	Formed from wind transported material or sediment.

Erosion	(i) The wearing away of the land surface by running water, wind, ice or other geological agents, including such processes as gravitational creep. (ii) Detachment and movement of soil or rock by water, wind, ice or gravity.
Erosion hazard (water)	The susceptibility of exposed soil to water erosion. Infiltration capacity and structural stability are regarded as the most important factors in controlling water erosion. Soil erosion hazard decreases as clay, sand or silt content increases. As organic matter depth and vegetation cover increase, erosion hazard decreases.
Eutrophic	Term referring to peatlands that are relatively nutrient-rich; also refers to soil and waters with high nutrient content and high biological activity.
Ecoregion	an area characterized by a distinctive regional climate as expressed by vegetation.
Ecosite	an ecological unit that develops under similar environmental influences (climate, moisture regime and nutrient regime).
Ecotone	a transition zone between two distinct biophysical units such as ecosystems or communities.
Faunal Remains	Bones and other animal parts found in archaeological sites. If modified by human activities, they are considered artifacts (e.g., bone awl).
Feature	The remains of any non-portable human activity that can not be removed from a site without disturbing it (e.g., hearth or pit).
Fen	A peat-covered or peat-filled wetland with a high water table which is usually at or above the surface. The peat materials are derived primarily from sedges and brown mosses with inclusions of partially decayed stems of shrubs formed in a eutrophic environment because of the close association of the material with mineral-rich waters.
Fen peat	Peat material constituting fens, composed of the partially decayed remains of sedges, brown mosses, and small amounts of leaves, stems and trunks of trees and shrubs such as black spruce and tamarack.
Fertility, soil	The status of a soil with respect to the amount and availability to plants of elements necessary for plant growth. Also nutrient regime.
Fire-cracked Rock	Rock which has been discoloured, cracked, or otherwise altered by exposure to fire. This is frequently characteristic of prehistoric

	occupation sites and can be associated with hearth features.
Flake	A stone fragment intentionally detached from a source rock during tool manufacture. Three flake types are generally recognized: primary flakes represent early stages of reduction where the original cortex is present on the dorsal surface; secondary flakes represent later stages of reduction where no cortex is present; and tertiary flakes represent the final stages of reduction where small pressure flakes are removed to produce the cutting or scraping edge of a tool.
Floodplain	The land bordering a stream, comprising sediments from overflow of the stream and subject to inundation when the stream is at flood stage.
Forb	Broad leaved, non-woody plant that dies back to the ground after each growing season (perennial). Ferns and fern allies are considered forbs while grass-like plants (i.e. grasses, sedges, and rushes) are not
Forest peat	Peat materials derived mainly from trees such as black spruce, ericaceous shrubs and feathermosses. Also see Folisol.
Gley, gleying	A chemical reduction process that takes place in soils that are saturated with water for long periods of time. The horizon of most intense reduction is characterized by a gray, commonly mottled appearance, which (on drying) shows numerous rusty brown iron stains or streaks.
Gleysolic soil	An order in the Canadian system of soil classification, in which soils are developed under wet conditions resulting in reduction of iron (i.e., rust) and other elements, and in gray colours and mottles.
Gravel	(i) As a deposit term: it refers to glaciofluvial or fluvial materials with 60% or more coarse fragments, usually sub-rounded to rounded and of variable size, or in relation to soil engineering, more than 50% of coarse fraction retained on 4.75mm sieve (ii) As a particle size term: it refers to a size fraction between 2 and 75 mm diameter with rounded, sub-rounded, angular or irregular shapes or 4.75 to 75 mm for geotechnical uses.
Gravelly	Containing appreciable amounts of rounded or sub-rounded rock or mineral fragments 2 mm to 75 mm in diameter or or 4.75 to 75 mm for geotechnical uses. Angular gravelly refers to fragments that are less rounded.

Great group	A category in the Canadian system of soil classification. It is a taxonomic grouping of soils having certain morphological features in common and a similar soil forming environment.
Habitat	the natural environment of an organism.
Hearth	A feature containing ash, charcoal, burned rock, or other evidence of fire created by people.
Heritage Resource	Any human or natural artifact or feature that is of interest for its architectural, historical, cultural, environmental, archaeological, palaeontological, aesthetic or scientific value.
Hydric soil	Soil formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions.
Hydrophytic	Plant that grows with the root system in water.
Hydraulic conductivity	The ability of the soil to transmit water in liquid form through soil pores; expressed in units of length per unit of time (e.g., m/s).
Horizon, soil	<p>A layer of soil or soil material nearly parallel to the land surface; it differs from adjacent genetically related layers in properties such as colour, structure, texture, consistence and chemical, biological and mineralogical composition. A list of the designations and some of the properties of soil horizons and layers follows. More detailed definitions of some horizons and layers may be found in The Canadian System of Soil Classification (Expert Committee on Soil Survey 1998).</p> <p>Mineral horizons and layers</p> <p>Mineral horizons and layers contain less than 17% organic carbon. Four main horizons are recognized:</p> <p>A - A mineral horizon formed at or near the surface in the zone of removal of materials in solution and suspension, or maximum in-situ accumulation of organic carbon, or both.</p> <p>B - A mineral horizon characterized by one or more of the following:</p> <ul style="list-style-type: none"> (i) An enrichment in silicate clay, iron, aluminum, or humus. (ii) A prismatic or columnar structure that exhibits pronounced coatings or stainings associated with significant amounts of exchangeable solutions. (iii) An alteration of hydrolysis, reduction, or oxidation to give a change in colour or structure from the horizons above or below, or both. <p>C - A mineral horizon comparatively unaffected by the</p>

	<p>pedogenic processes operative in A and B, except gleying, and the accumulation of carbonates and more soluble salts.</p> <p>Roman numerals are prefixed to horizon designations to indicate unconsolidated lithologic discontinuities in the profile. Roman numeral I is understood for the uppermost material and usually is not written. Subsequent contrasting materials are numbered consecutively in the order in which they are encountered downward, that is, II, III, and so on.</p> <p>Lowercase Suffixes</p> <p>ca-A horizon of carbonate accumulation exceeding the content in parent material.</p> <p>e - A horizon characterized by removal of clay, iron, aluminum, or organic matter alone or in combination and higher in colour value by one or more units when dry than an underlying B horizon. It is used with A (Ae).</p> <p>g - A horizon characterized by gray colours, or prominent mottling indicative of permanent or periodic intense reduction, or both; for example, Aeg, Btg, Bg or Cg.</p> <p>h - A horizon enriched with organic matter.</p> <p>Ah - An A horizon of organic matter accumulation.</p> <p>Ahe - An Ah horizon that has been eluviated, as evidenced by streaks and splotches of light and dark gray material and often by platy structure.</p> <p>j - This is used as a modifier of suffixes e, g, n, and t to denote an expression of juvenile development of that horizon.</p> <p>k - Presence of carbonate.</p> <p>m - A horizon slightly altered by hydrolysis, oxidation, or solution, or all three, to give a change in colour, or structure, or both.</p> <p>t - A horizon enriched with silicate clay, as indicated by a higher clay content (by specified amounts) than the overlying eluvial horizon, a thickness of at least 5 cm, oriented clay in some pores, or on ped surfaces, or both, and usually a higher ratio of fine (less than 0.2 μm) to total clay than in the C horizon.</p> <p>Organic horizons</p> <p>Organic layers contain 17% or more organic carbon. Two groups of these layers are recognized:</p> <p>O - An organic layer developed mainly from mosses, rushes and woody materials.</p>
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	<p>Of - The least decomposed organic layer, containing large amounts of well-preserved fibre, and called the fibric layer.</p> <p>Om - An intermediately decomposed organic layer containing less fibre than an Of layer and called the mesic layer.</p> <p>Oh - The most decomposed organic layer, containing only small amounts of raw fibre and called the humic layer.</p> <p>L,F,H - Organic layers developed primarily from leaves, twigs, an woody materials, with a minor component of mosses.</p> <p>L - The original structures of the organic material are easily recognized.</p> <p>F - The accumulated organic material is partly decomposed.</p> <p>H - The original structures of the organic material are unrecognizable.</p>
Hummocky	A type of landform consisting of a complex sequence of slopes extending from somewhat rounded depressions or kettles of various sizes to irregular to conical knolls or knobs. There is a lack of concordance between knolls and depressions. Slopes are generally 9 to 70%.
Inclined	A sloping, unidirectional surface of at least 300 metres length and not broken by marked irregularities. Slopes can be 2 to 70%.
Infiltration	The downward entry of water into the soil.
Landforms	The various shapes of the land surface resulting from a variety of actions such as deposition or sedimentation (eskers, lacustrine basins), erosion (gullies, canyons), and earth crust movements (mountains). Landforms are considered to have two basic attributes, genetic material and surface expression.
Leaching	The downward movement in the soil of materials in solution.
Level	A flat or very gently sloping, unidirectional surface with a generally constant slope not broken by marked elevations and depressions. It refers to slopes generally less than 2%.
LFH	See horizon, soil.
Lichen	Fungi and certain species of algae that live in a symbiotic relationship whereby the fungus provides structural support, nutrients absorbed from the substrate, and a relatively stable microenvironment. The algae provide carbohydrates through the process of photosynthesis (Beckingham et al. 1996).
Lithic	A general term used to refer to stone artifacts such as tools, cores, or debitage.

Litter	Accumulation of leaves, needles, twigs and other woody materials on the surface of a soil. Also called 'forest floor', and as a soil horizon is referred to as LFH.
Liverwort	Small, nonvascular, spore-producing plants that make up the class <i>Hepatopsida</i> (or Hepaticae) within the phyla <i>Bryophyta</i> .
Lowland	Land that is saturated with water long enough to promote wetland or aquatic processes, shown by poorly drained soil and hydrophytic vegetation.
Lower lift	A soil layer immediately below the upper lift (q.v.) of specified thickness that is selectively removed, stored, and replaced as upper subsoil in the reclamation process.
Map unit	A combination of kinds of soil, terrain, or other feature that can be shown at a specified scale on a map, for the defined purpose and objectives of a particular survey.
Marsh	A mineral or a peat-filled wetland which is periodically inundated by standing or slowly moving, nutrient-rich water. Water levels may fluctuate seasonally, with declining levels exposing drawdown zones of matted vegetation or mud flats. The substratum usually consists dominantly of mineral material, although some marshes are associated with peat deposits. The associated soils are dominantly Gleysols with some Humisols and Mesisols. Marshes characteristically show a zonal or mosaic surface pattern of vegetation comprising unconsolidated grass and sedge sods, often interspersed with channels or pools of open water. Marshes may be bordered by bands of trees and shrubs, but the predominant vegetation consists of emergent non-woody plants such as rushes, reeds, reed-grasses and sedges. Where open water areas occur, a variety of submerged and floating aquatic plants flourish.
Meltwater channel	A large channel formed by water derived from melting of glacial ice. In the prairie region, these channels are often referred to as coulees.
Mesic peat	Organic material at a stage of decomposition between that of fibric and humic materials; peat soil material with greater than 10% and less than 40% rubbed fibres; mesic peat usually is classified in the von Post scale as class 5 or 6.
Mineral soil	A soil consisting predominantly of, and having its properties determined predominantly by, mineral matter. Usually contains less than 30% organic matter, but may contain an organic surface

	layer up to 0.3 m thick.
Morphology, soil	(i) The physical constitution, particularly the structural properties, of a soil profile as exhibited by the kinds, thickness, and arrangement of the horizons in the profile, and by the texture, structure, consistence, and porosity of each horizon. (ii) It also refers to the structural characteristics of the soil or any of its parts.
Moss	A small leafy plant lacking any true vascular system or roots (Beckingham et al. 1996).
Mottles, mottling	Spots or blotches of different colour or shades of colour interspersed with the dominant colour of a soil; formed mainly by the effects of impeded drainage.
Multiple Feature	A category for archaeological sites consisting of several features of different kinds (e.g., a cluster of stone circles and cairns).
Munsell colour system	A colour designation system specifying the relative degrees of the three simple variables of colour: hue, value and chroma. For example, 10YR6/4 is the colour of a soil having a hue of 10YR, value of 6, and chroma of 4. These notations can be translated into several different systems of colour names.
Muskeg	This is a North American term often employed for peatland. The word is of Algonquin Indian origin and is applied in ordinary speech to natural and undisturbed areas covered more or less with <i>Sphagnum</i> mosses, tussocky sedges, and an open growth of scrubby trees. (In this report, the words <i>peatland</i> and <i>muskeg</i> are used interchangeably.)
Noxious Species	Noxious species include those designated under the <u>Noxious Weed Designation Regulations</u> of Saskatchewan's <u>Noxious Weed Act</u> .
Of	See <i>horizon, soil</i> .
Oh	See <i>horizon, soil</i> .
Old Growth Forest	The steady state stage of forest succession that occurs as overstory trees age, thereby increasing in height and biomass. Old growth forests are generally distinguished by substantial differences in characteristics of living and fallen trees from initial stages of secondary succession. Gap dynamics such as senescence, and insect and pathogen disturbance dominate the disturbance regime of old growth forest. In this document, old growth forest is defined based on Kneeshaw and Gauthier (2003) as the "stage at which the initial post-disturbance cohort begins

	<i>dying off, concurrent with understory stem recruitment into the canopy</i> ".
Oligotrophic	Term for peatlands or surface waters that are poor to extremely poor in nutrients and with low biological activity. Biological growth in oligotrophic water is often limited by low levels of phosphorus and nitrogen.
Om	See <i>horizon, soil</i> .
Ombrotrophic	Refers to peatlands receiving nutrients exclusively from precipitation, resulting in <i>oligotrophic</i> nutrient conditions. Peat bogs area ombrotrophic systems.
Order, soil	A category in the Canadian system of soil classification. All the soil within an order have one or more characteristics in common.
Organic carbon, soil	The percent by weight of soil carbon in organic forms determined by the difference between total carbon and inorganic carbon.
Organic matter, soil	The organic fraction of the soil; included are plant and animal residues at various stages of decomposition, cells and tissues of soil organisms and substances synthesized by the soil organism population.
Orthic	A subgroup referring to the modal or central concept of various great groups in the Brunisolic, Chernozemic, Cryosolic, Gleysolic, Luvisolic, Podzolic and Regosolic orders of the Canadian system of soil classification.
Overburden	Materials of any nature, consolidated or unconsolidated, that overlie a deposit of useful, generally mineable, materials.
Particle size	The effective diameter (grain size) of a particle measured by sedimentation, sieving or micrometric methods.
Particle-size distribution	The amounts of the various soil separates in a soil sample, usually expressed as percentage of sand, silt and clay.
Peat	Material constituting peatlands, not including the live plant cover, consisting largely of organic residues accumulated because of incomplete decomposition of dead plant constituents under conditions of excessive moisture.
Peatland	A general term for any tract of land covered with a layer of soil containing a high percentage of peat.
Perviousness	The potential of a soil to transmit water internally, as inferred from soil characteristics such as structure, texture, porosity, cracks and

	shrink-swell properties.
pH, soil	The negative logarithm of the hydrogen-ion activity of a soil solution. The degree of acidity or alkalinity of a soil, as determined by a suitable electrode or indicator at a specified moisture content or soil-water (or CaCl ₂ solution) ratio and expressed in terms of the pH scale.
Phase, soil	A subdivision of a soil type, based on a variation in a property or characteristic such as depth of lime, degree of erosion, content of stones and peat surface.
Physiography	The physical nature of the land; it includes topography (the relief and contours of the land), elevation, aspect, slope, surface pattern of landforms and drainage.
Plain	An extensive tract of flat land or an undulating terrain without prominent hills or depressions.
Platy	Consisting of soil aggregates that have developed predominantly along the horizontal axis; laminated; flaky.
Polygon, map	A map delineation that represents a tract of land with certain landform, soil, hydrologic, vegetation or other features.
poor fen	An ecosite that is transitional between fen and bog. A poor fen is intermediate in nutrient regime and is similar floristically to the fen and bog. Sedges and peat moss, golden and brown mosses compose the majority of the organic matter content. See also <i>rich fen</i> .
Pore	A void or space in a soil or rock not occupied by solid mineral material.
Porosity, soil	The volume percentage of the total bulk not occupied by solid particles.
Productivity, soil	The capacity of a soil, in its normal environment, to produce a specified plant or sequence of plants under a specified system of management.
Profile, soil	A vertical section of the soil through all its horizon and extending into the parent material.
Projectile Point	An inclusive term for a hafted arrow, spear, or dart point.
Puddling	Pooling of water on the ground surface due to reduced movement of water into the soil profile or limited movement overland. Results in the formation of puddles.

Puddling hazard	The susceptibility of soil to puddling. Soil puddling is the process by which the structure of the surface soil layer is destroyed through the realignment of clay particles, ultimately leading to restricted drainage. The best prevention against soil puddling is to avoid operations during wet periods and to leave the surface organic layer intact.
Rare Plant	Rare plants include plant species at risk as well as rare or uncommon plants. Plant species at risk in this report included species listed as <i>At Risk</i> under the <u>Wildlife Act</u> (1998) (Saskatchewan Ministry of Environment (SMOE) 2010) and those listed on Schedule 1 of the federal <u>Species at Risk Act</u> Public Registry_(SARAPR) (Species at Risk Public Registry 2010). Rare or uncommon plants in Saskatchewan include species assigned a provincial rank of S1, S2 or S3 by the Saskatchewan Conservation Data Centre (SKCDC) (SKCDC 2010a).
rcybp	Radiocarbon years before present. 1,000 rcybp = 1,000 years before 1950 A.D. or approximately 1,000 A.D.
Riparian Area	Heterogeneous transition zones between terrestrial and aquatic ecosystems that are generally influenced by elevated water tables or frequent flooding and characterized by a distinct vegetation community.
Riparian Habitat	Includes both riparian areas, defined based on ecological characteristics, and riparian management areas, defined based on management objectives.
Riparian Mgmt Area	A distinct spatial boundary designated to achieve specific management goals for riparian areas which may contain zonation or elements including aquatic and terrestrial environments associated with or outside the riparian ecotone (Saskatchewan Environment Forest Service 2004b).
Reaction, soil	The degree of acidity or alkalinity of a soil, usually expressed as a pH value. Descriptive terms used here with certain ranges in pH are: acid, less than 5.5; neutral, 5.5-7.4; alkaline, greater than 7.4.
Recent (deposits)	Surficial deposits of late post-glacial age, i.e., within the last few hundred to a few thousand years.
Reclamation	The process of reconvertng disturbed land to its former or other productive uses.
Reconnaissance survey	Preliminary survey used to investigate the general characteristics of a project area – followed by a more detailed survey if necessary

Recurrent Feature	A category for archaeological sites consisting of several features of the same kind (e.g., a cluster of two or more stone circles).
Regosolic	An order of soils in the Canadian system of soil classification, in which soils have no horizon development, or in which development of the A and B horizons is insufficient to meet the requirements of the other orders.
Relief	The topographic difference in elevation between the high and low points in a landscape.
Ridged	A type of surface expression of mineral landforms, characterized by a long, narrow elevation of the surface, usually sharp crested with steep sides. Ridges may be parallel, subparallel or intersecting.
Rock	Any naturally formed, consolidated or unconsolidated material, other than soil, composed of two or more minerals, or occasionally of one mineral, and having some degree of chemical and mineralogical constancy.
Rolling	Landform consisting of long, regular or smooth, often convex slopes with a cycle distance of about 0.5 to 1 km.
Rutting hazard	See <i>compaction, compaction hazard</i> .
Salinity, soil	The amount of soluble salts in a soil, expressed as the electrical conductivity in deciSiemens per meter (dS/m) of a saturated paste of a soil sample.
Sand	(i) As a particle size term: a size fraction between 0.05 and 2.0 mm equivalent diameter, or some other limit (geology or engineering). (ii) As a soil term: a textural class with abundant sand-sized particles.
Sedge	A grass-like herb that grows in marshy places.
Sediment	Solid particles of material that have been derived from rock weathering. They are transported and deposited from water, ice or air as layers at the earth's surface.
Seep (seepage)	An area, generally small, where water percolates slowly to the land surface. Synonymous with 'spring' where the flow of water is substantial.
Series, soil	A category (or level) in the Canadian system of soil classification. A subdivision of the soil subgroup classification level, this is the basic unit of soil classification, and consists of soils that are essentially alike in all major profile characteristics except the

	surface texture.																					
Shale	A sedimentary rock, composed of clay and silt sized particles that splits readily along bedding planes.																					
Shatter	A stone fragment unintentionally detached from a core during stone tool manufacture. Shatter is often less well defined than the more purposefully removed flakes.																					
Shovel Probe	A 40 cm by 40 cm subsurface test where the excavated soils and sediments are hand trowelled for cultural materials.																					
Shovel Test	A 50 cm by 50 cm subsurface test where the excavated soils and sediments are passed through a 6 mm mesh screen.																					
Shrub	Woody perennials of smaller structure than trees (Beckingham et al. 1996).																					
Silt	(i) As a particle size term: a size fraction between 0.002 and 0.05 mm equivalent diameter, or some other limit (geology or engineering). (ii) As a soil term: a textural class with abundant silt sized particles.																					
Single Feature	A category for archaeological sites consisting of one feature, (e.g., a single stone circle).																					
Site	Any location with detectable evidence of past human activity.																					
Slope	The degree of deviation of a surface from horizontal, measured as a numerical ratio, as percent, and as degrees from horizontal.																					
Slope classes	<p>The description of an area or region in terms of the steepness of slopes. The slope classes, class limits (in percent slope), and descriptive terminology are:</p> <table border="1"> <thead> <tr> <th>Class</th> <th>Slope (%)/ Approximate degrees</th> <th>Terminology</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0-0.5/0</td> <td>level</td> </tr> <tr> <td>2</td> <td>0.5-2/0.3-1.1</td> <td>nearly level</td> </tr> <tr> <td>3</td> <td>2-5/1.1-3</td> <td>very gentle slopes</td> </tr> <tr> <td>4</td> <td>5-9/3-5</td> <td>gentle slopes</td> </tr> <tr> <td>5</td> <td>9-15/5-8.5</td> <td>moderate slopes</td> </tr> <tr> <td>6</td> <td>15-30/8.5-16.5</td> <td>strong slopes</td> </tr> </tbody> </table>	Class	Slope (%)/ Approximate degrees	Terminology	1	0-0.5/0	level	2	0.5-2/0.3-1.1	nearly level	3	2-5/1.1-3	very gentle slopes	4	5-9/3-5	gentle slopes	5	9-15/5-8.5	moderate slopes	6	15-30/8.5-16.5	strong slopes
Class	Slope (%)/ Approximate degrees	Terminology																				
1	0-0.5/0	level																				
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4	5-9/3-5	gentle slopes																				
5	9-15/5-8.5	moderate slopes																				
6	15-30/8.5-16.5	strong slopes																				

	7	30-45/16.5-24	very strong slopes
	8	45-70/24-35	extreme slopes
	9	70-100/35-45	steep slopes
	10	>100/>45	very steep slopes
Slough	A generic term referring to waterbodies that occupy shallow undrained depressions. They may be intermittent or permanent, but contain standing water throughout most years. (Shallow open waterbody is the preferred term.)		
Soil horizon	See <i>horizon, soil</i> .		
Soil map	A map showing the distribution of soil types, classes, or other soil mapping units in relation to the prominent physical and cultural features of the earth's surface.		
Solution, soil	The aqueous liquid phase of the soil and its solutes consisting of ions dissociated from the surfaces of the soil particles and of other soluble materials.		
Species at Risk	Species listed as At Risk under the <u>Wildlife Act</u> (1998) (Saskatchewan Ministry of Environment (SMOE) 2010) and those listed on Schedule 1 of the federal <u>Species at Risk Act</u> Public Registry_(SARAPR) (Species at Risk Public Registry 2010).		
Steep	A type of surface expression of mineral landforms, consisting of erosional slopes, greater than 70% (35°), occurring on consolidated and unconsolidated materials.		
Stone Circle	A Feature consisting of stone cobbles set out in a roughly circular outline. They are generally thought to have resulted from the use of stones to secure the edges of circular hide dwellings (tipis), although the stones may also have been used in constructing ceremonial structures.		
Stones	Rock fragments greater than 0.25 m in diameter, if rounded, and greater than 0.38 m along the greater axis, if flat.		

Stoniness/gravel classes	<p>Categories of density of coarse fragments in surface soil:</p> <p>0 – non-stony (coarse fragments greater than 30 m apart)</p> <p>1 – slightly stony (coarse fragments 10 to 30 m apart)</p> <p>2 – moderately stony (coarse fragments 2 to 10 m apart)</p> <p>3 – very stony (coarse fragments 1 to 2 m apart)</p> <p>4 – exceedingly stony (coarse fragments 0.1 m to 1 m apart)</p> <p>5 – gravelly (coarse fragments 0.05 to 0.1 m apart)</p> <p>6 – very gravelly (coarse fragments less than 0.05 m apart)</p>
Stratification, stratified	The arrangement of sediments in layers or strata marked by a change in colour, texture, size of particles and composition.
Stratigraphy	The deposition of soil and sediment as layers within a site.
Structure, soil	The combination or arrangement of primary soil particles into secondary particles, units or peds. These peds may be, but usually are not, arranged in the profile in such a manner as to give a distinctive characteristic pattern. The peds are characterized and classified based on size, shape, and degree of distinctness into classes, types, and grades. The soil structure classes are described in Appendix F.
Subgroup, soil	A category in the Canadian system of soil classification. They are subdivisions of the great groups and, therefore, are defined more specifically.
Terrace	A nearly level, usually narrow plain bordering a river or lake. Rivers sometimes are bordered by a number of terraces at different levels.
Terrain	The landscape, or lay of the land. The physical features of a tract of land; e.g., landform (or surface expression), active and inactive processes that modify material and form, slope, aspect and drainage conditions. Terrain analysis is the identification of the above land surface features, to a more or less defined depth and determining their areal extent. The identification of special features such as permafrost, erosion, and landforms indicating subsurface structures are included in such analyses.
Texture, soil	The relative percentages of the soil separates in a soil (i.e., sand, silt and clay particles) as described by the classes of soil texture.

Till	Unsorted and unstratified drift (morainal material), consisting of clay, silt, sand, gravel and boulders intermingled in any percentage, deposited by and underneath a glacier without subsequent reworking by glacial meltwater.
Tilth	The physical condition of soil as related to its ease of tillage, fitness as a seedbed, and impedance to seedling emergence and root penetration.
Topography	The physical features of a district or region, such as those represented on a map, taken collectively; especially the relief and contours of the land. On most soil maps topography may also mean topography classes that describe slopes according to standard ranges of percent gradient.
Topsoil	(i) The layer of soil moved in cultivation. (ii) The A horizon. (iii) The Ah horizon. (iv) Presumably fertile soil material used to topdress road banks, gardens and lawns.
Tree	Woody perennials that are considered commercial tree species and generally occur in the uppermost canopy or in the understory (Beckingham et al. 1996).
Undulating	A type of landform characterized by wave-like patterns of very gentle slopes with low local relief. Slope length is generally less than 0.5 km and slope gradients are commonly 2-5%.
Upper lift	A surface soil layer of specified thickness that is selectively removed, stored, and replaced as topsoil in the reclamation process.
Veneer	A mantle of unconsolidated materials too thin to mask the minor topographic irregularities of the underlying material. As used in this report, a veneer is generally less than 1 m thick and lacks a surface form typical of a particular material's genesis.
Water holding capacity	The percentage of water remaining in the soil material after having been saturated and after drainage of free water has practically ceased.
Water logged	Saturated with water.
Water table	(i) The upper surface of groundwater or that level below which the soil is saturated with water. (ii) Groundwater surface or elevation at which the pressure in the water is zero with respect to atmospheric pressure.
Weakly developed (soil)	Refers to calcareous profiles, rego profiles, and profiles that are thinner than normal.



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Weeds	Weed species are defined as non-native species for the purposes of this report. They include noxious weeds and invasive species. Native species that can become weedy due to their high dispersal and migration rates were not considered weeds in this report
Wetland	Land having the water table at, near, or above the land surface or which is saturated for a long enough period to promote wetland or aquatic processes as shown by hydric soil, hydrophytic vegetation and various kinds of biological activity which are adapted to the wet environment.