MAP ¹ UNIT	NAME	SURFICIAL I	Estimated Thickness	LANDFOR Topography	Drainage Pattern	% Water	GROUND ICE	LAND ³ ZONE	Texture U.S.D.A.	Unified Classi- fication	Micro-relief cm	Depth of thaw cm	Drainage (deciles)	Stable	After Fire	Occur- ence **	COMMENTS
f0v	Organic veneer (mapped mainly as a secondary unit with tMp, tMv)	Peat - typically woody sedge peat	20-60 cm	Shallow channels, runnels and depressions; Slope 0-3° Relief to 1 m	Surface seepage in channels, depressions		Organic veneer lies mainly within the active layer; (for ice in mineral soil below, see associated map unit).	0 1, 1m 2, 2m	woody sedge peat over L-C mineral woody sedge peat over	Pt CL-ML	Sedge tussocks 10-50 Sedge	50-100	Poor to wet 10		Cx-Wi	1	Similar to f0; areas with mappable f0v component (+10%) should be avoided in construction of roads, pipelines, etc.
fO	Organic (fenland)	Peat - typically woody sedge peat	2-3 m	Flat to very gently to gently sloping, in part	No organized drainage; water at	5-20	Commonly unfrozen to 2+ m (see "Depth of Thaw" for respective zones) little data available on	3	L-C mineral woody sedge peat over L-C mineral	Pt CL-ML	tussocks 10-50 Sedge tussocks 10-30	100-200	Poor to wet 10 Poor to wet 10	Cx-Bi-tL	Cx-Bi-tL	1	Poor drainage, plus high compressibility and low strength of the
		1		with reticulate network of low ridges. Slope 0-2° Relief to 1 m	surface through out summer months		segregated ice content at greater depths.	1, 1m 2, 2m	Mesic sedge peat Mesic sedge peat Mesic sedge peat	Pt Pt	O to tussocky None Some sedge tussocks	200 to unfrozen Unfrozen	Wet 10	Cx-Cott. or Cx-Bi-tL Cx-Cott. or Cx-Bi-tL Cx-Cott. or Cx-Bi-tL	Cx-Cott.	2	material make it unsuitable for any type of construction.
рО	Organic (peatland)	Peat - typically sedge and woody sedge peat over- lain by sphagnum peat	2-4 m	Flat to very gently sloping, typically with numerous shallow steep-sided (2- 3 m) depressions occupied by lakes, ponds and bogs.	Depressions interconnected by seepage channels	5-20	Commonly up to 20%, locally up to 60% segregated ice within peat; typically 30-100 cm, locally up to 3 m total thickness segregated ice in mineral soil immediately below peat. Peat in wet depressions commonly thawed to 1 m + (Zones 1, 2) or		Fibric to mesic peat Fibric to mesic peat Fibric to	Pt	Polygon trenches to 100 cm Some poly- gon trenches to 100 cm Some sphag-	25 - 30	Imp. 10	Lichen- Sphagnum Lichen-bS	Sphagnum-Er Sphagnum-Er	1	Subsidence of up to 1 m common, and subsidence up to 3 m possible, when vegetation is removed; alternation of permanently frozen peat plateaus and thawed depressions and water bodies presents serious problems in construction of roads, pipelines,
gAp s,gAp	Alluvial flood plain of high energy streams	part with silt	1-5+ m sand and/or gravel	Flood plain and low bordering terraces scarred	Intermittent drainage through braided	0	Permafrost lacking in active unvegetated parts of floodplain; elsewhere cement ice only, except	2, 2m	mesic peat Fibric to mesic peat	Pt Pt	num hummocks Some sphag- num hummocks	25-30		Lichen-bS Lichen-bS Occasionally flooded	Sphagnum-Er Sphagnum-Er Frequently* flooded	2	etc.; material highly compressible when thawed. Subject to periodic flooding; constitutes potential reserve of
si,gAp si Ap			0-2 m silt	by braided channels Slope 0-3° Relief to 2 m	channels		in silt veneer which commonly has 10 to 25% segregated ice as thin (1 mm - 2 cm) seams	0 1, 1m 2, 2m	S + G S + G	SM-GM SM-GM SM-GM	polygons to 50 cm 0	50-150 50-200 50-200	Imp. to well Imp. to well	Wi-Al	Bare Bare	1 1	gravel but extraction presents serious possibility of deleterious changes in stream course and down- stream changes in stream regimen.
siAp si,sAp	Alluvial flood plain of low energy streams	Silt, fine-grained sand	3-5+ m	Flood plain and low bordering terraces commonly with meander scars.	No integrated drainage system; impeded by meander scroll ridges	0-20	Permafrost lacking in unvegetated part of floodplain; elsewhere 10 to 25% segregated ice by volume as thin (1 mm - 2 cm) seams. Ice wedges in polygonal pattern	0	S + G VFSL to SiL	SM-GM SM to CL -ML	0	50-200+ 50 to unfrozen		bPo-Al-Wi wS Cx tL	Bare Wi-Al Cx Wi	1 1	Subject to periodic flooding; melting of ice wedges produced polygonal network of depressions when vegetation is removed.
				Slope 0-3° Relief to 1 m	where present		(diameter of polygons 6-25m) common in Zone 2.	2, 2m	VFSL to SiL VFSL to SiL	SM to CL-ML SM to CL-ML	0	100 to unfrozen 100 to unfrozen	Imp. 4	wS-bS Cx-tL wB-bPo-wS Cx-tL	Wi-Al Cx-Wi Wi-Al Cx-Wi	1	
si Apk si,sApk	Thermokarst alluvial floodplain (associated with low energy streams only)	Silt, fine-grained sand	3-5+ m	plain, in part with meander scars, and with numerous channels and thermokarst ponds. Slopes 0-3° short steep slopes to 45°	Seepage to ponds and lakes to adjacent streams by connection channels	20-50	20 to 50% segregated ice by vol. in upper 2-3m (and probably to greater depth)	1 2	VFSL to SiL VFSL to SiL	SM to CL-ML	Hummocks and trenches 0-40 Hummocks 0-50	40-200+ 50-200+	Poor 5 Mod. well 2 Imp. 4	wS wS-bS-lichen Cx-Wi wS wS-bS-lichen Cx-Wi		2	Thermokarst processes active around pond margins; melting of ice wedges produces polygonal network of depressions when vegetation is removed; subject to periodic flooding; highly unsuitable as construction sites.
gAt si,gAt si At	Alluvial terrace of high energy streams	Sand, gravel in part with silt veneer	1-5+ m sand and/or gravel 0-2 m silt	Level to gently sloping terrace, in part with shallow channels and steep scarps. Slope 0-3°,	Surface drainage without inte- grated drainage system	0-5	Cement ice only except in silt veneer which commonly has 10 to 25% segregated ice as thin (1 mm - 2 cm) seams.	3 0	VFSL to SiL S + G FS-SiL (often over	SM to CL-ML SM-GM SM to CL-ML	Hummocks 0-20 Polygons to 50 cm	100 to unfrozen 75-125 75-150	Poor 4 Mod. well 2 Imp. 6 Poor 2 Mod. well 3	wS-bS Cx-tL Lichen-Er Cs-Wi Cx	WB-bPo-wS bPo-A1 Cx-Wi Er Cx-Wi Cx	1	Offer good construction sites where silt veneer is thin; potential aggregate source.
g				locally to 30° Relief to 5 m, greater at scarps				2, 2m	gravel) FS-Sil (often over- lying gravels) SL-SiL (often over gravel)	SM to CL-ML SM to CL-ML	Hummocks 0-20 Hummocks 0-20	75-150 100 to unfrozen 75-150	Poor 2 Mod. well 3 Imp. 5 Poor 2 Mod. well 3 Imp. 5	Cx-Wi WS-lichen bS-lichen Cx-Wi WS WS-bS Cx-tL	Wi-Cx wS-bPo bPo Wi-Al wB wB-bS Cx-tL	1	
si,sAt	Alluvial terrace of low energy streams	Silt, fine- grained sand; veneer of eolian silt or sand (rare)	1-10 m silt and sand	Level to gently sloping terrace, in part with shallow channels and steep scarps Slope 0-3°, locally to 30° Relief to 5 m greater at scarps Numerous shallow	seepage along		Commonly 10 to 25% segregated ice as thin (lmm-2cm) seams in upper 1-3m; at greater depth segregated ice to 40% by volume as reticulate network (in subjacent massive silts and clays) or as layers 2-5cm thick (in varved silts and clays); also thick tabular bodies of nearly pure ice; ice wedges as polygonal	1m	FSL-SiL FSL-SiL	ML SM to ML SM to ML	Hummocks 0-50 Hummocks 20-75	75-150	Poor 5 Mod.well 2 Imp. 5 Poor 3 Imp. 4	bS-tCx tCx-bS wS wS-bS-lichen Cx-Wi-bS wS-bS	Bi-Wi tCx wB-wS AC-Wi Wi-Cx	1 1	Ground-ice data refer to the thermokarst alluvial terraces of Bell Basin (1161, P) where the terraces are under lain at depth by glaciolacustrine and non-glacial sediments; in map-area 116 (E½) & 0, thermokarst alluvial terrace are underlain by silt 5 to 6 m thick i turn underlain by gravel; segregated ice as thin (1-2 cm) lenses in upper 1-3 m, or occasional thick tabular bod
i Atk gee comments Af gAf si,s,Af	luvial terrace of low energy streams Alluvial fans and fan aprons	Highly variable - silt, sand, gravel, peat	50+ m	thermokarst lakes and ponds Relief to 3 m Gently to moderately sloping fans and aprons. Slopes 1-12°	depressions be- tween ponds and lakes (Atk) One or more shifting streams usually present downslope	0	networks usually present (see comments for ground ice in si Atk unit). Highly variable; low in gravel, mod. to very high in silt (the more common case). Thin seams in upper 2-3 m; thick layers to 30+ cm at depth. Ice content	0	Variable; generally	Variable	Hummocks	50-100	Poor 2 Mod. well 2 Imp. 6	tCx-Wi tCx wS wS-bS-lichen	Wi-Al Wi-Al	1	at greater depth in silt; ice wedges a polygonal networks usually present; probably cement ice only in gravels. Fans composed of sand and gravel offer well-drained building sites, but sudden and damaging shifts of streams on the fans are common; fans with high silt content are
gAf			1.5		seepage in poorly defined runnels and considerable subsurface seepage in gravel fans		generally lower in coarser sediments at head of fan than in finer sediments at outer margin.	1m 2, 2m	SL-SiL Variable Variable; Generally SL-SiL	Variable Variable	Hummocks	50-100+	Mod. well 2 Imp. 6 Poor 2 M.well-well 3 Imp. 6	bS-lichen Wi bS-wB bS-tCx tCx-bS	Cx-Wi Wi-A1 Wi-A1 Wi-A1 Wi WB-A1 tCx tCx	1	unsuitable for construction. Fans of gravel, sand (rare) are good sources of aggregate; subsurface drainage in gravel fans may cause difficulties in utilization of borrow pits.
Cx	Colluvial complex	Colluvium derived from entire range of surficial deposits plus bedrock detritus	1-5+ m	Steeply sloping valley walls and scarps. Slope 12 to 45° Relief to 300 m					Variable Variable	-	0	30-200 30-250	-	Bare Grass-wB bS-lichen	Cx wS-lichen wS-bS-lichen	1	Active stream erosion, slumping, retrogressive-thaw flow slides, active-layer detachment slides common; irregularity of topography and slope instability present major problems for any kind of construction; see comments re map unit on which colluvium is developed.
Cv	Colluvial veneer	Rock detritus, minor glacially transported	0-2 m	Veneer conforms to bedrock top- ography	Generally , freely drained	0	Probably cement ice only.	2, 2m 3	Variable Variable	-	0 Solifluction lobes and terraces 0-75	30-300 50-300+ 20-200	Well 4 ImpPoor 2 Excess 4 Well 4 ImpPoor 2 Well 8 Imp. 1	Bare tA-wS-wB bS-lichen Grass tA-wB-wS bs-wS Cx CotttCx tCx-sphagnum	Cs bS-lichen bS-lichen Wi-Al bS-wS bS-lichen	1 2	Sorted polygons, stone stripes, in part active, suggest cryoturbation;
											0-75		1	- prod gnum			
E sEr sEv	Eolian deposits	Sand, mainly fine to medium grained	1-20 m	Thin veneer or dune ridges within or adja- cent to areas of Gp, GLp Slope to 20° Relief to 10 m	Mainly sub- surface seepage; no organized drainage	0	No data; probably cement ice only below active layer; segregated ice highly probable in subjacent glaciolacustrine silts where eolian deposits occur within areas of GLp.	0					Well 7	ws-wh	wS-wB-grass		Offers restricted well-drained sites within large areas of poorly drained units GLp, GLpk; subject to wind erosion when vegetation mat is removed Gulleying commonly occurs upon removal of the vegetation mat in areas where eolian sand forms a thin veneer over
Lp si,cLp	Glaciolacus- trine plain	Glaciolacustrine silt and clay; discontinuous	1-20 m + silt and clay	Flat to gently sloping	Surface seepage through	0-20	No data; should be treated as Lpk until data available.	3	LS-S	SP SP	0	50-300 50 to unfrozen	Imp. 2 Poor 1 Well 7 Imp. 2	ws-wh bS-wS bS-tL-Cx tA-wS wS-wB bS-tL-Cx	wS-wB-grass wS-sB-bS Cx-tL tA wB tL-Wi	1	eclian sand forms a thin veneer over ice-rich till or lacustrine sediments. Active-layer detachment slides, follow by development of retrogressive-thaw f slides, common on colluvial slopes (Cx
si,cLp		discontinuous organic cover	clay	Slope 0-2° Relief to 3 m	fen-filled depressions			0 1 m 2, 2m	SiL-SiC (some FS) SiL-SiC (some FS) SiL-SiC (some FS)	CL-ML CL-ML to ML CL-ML to ML ML	Hummocks 20-60 Hummocks 20-50 Hummocks 20-75	50-90	Imp. 2 Poor 8	bS-tCx bS-Er-tCx wS-bS-lichen tL-bS-Cx bS-lichen-tCx bS-lichen-tCx	tCx tCx-Wi wB-wS-Wi Cx-Wi-Al	1 1 1	developed on this unit (and on lesser areas of steep slope not mapped as Cx) especially following fire or other dis turbance of vegetation. Gulleying comm ly results even on gentle slopes upon removal of vegetation due to combined hydraulic and thermal erosion and disr tion of the drainage network. West of the Richardson Mountains this unit is underlain by unconsolidated basin-fill
Lpk si,cLpk	Glaciolacus- trine thermokarst plain	Glaciolacustrine silt and clay; discontinuous organic cover	1-20 m + silt and clay	Flat to gently sloping, num- erous shallow thermokarst	Seepage contri- petal to ponds and lakes, intermittent	25	Commonly up to 10-25% segregated ice as thin (1 mm - 2 cm) seams in upper 1-3 m; segregated ice as reticulate network to 40% by volume or thick tabular bodies	3	SiL-SiC SiL-SiC (some FS)	ML CL-ML to CL CL	Hummocks 10-50	50-200	Poor 5 Imp. 5 Poor 5	bS-tL-tCx bS-lichen tL-bS-Cx wS-bS-w8	tCx-Wi-tL bS-lichen tL-Wi-Cx	1	sediments. The subjacent non-glacial sediments in the lacustrine plains of unglaciated area typically have a much lower ice content. Thermokarst processes active around pomargins; active-layer detachment slidefollowed by development of retrogressithaw flow slides, common on colluvial slopes (Cx) developed on this unit (and sediments).
				lakes and ponds Slope 0-5° Relief to 6 m	seepage through fen-filled depressions between ponds and lakes		volume, or thick tabular bodies of nearly pure ice at greater depth.	1 1m 2, 2m	SiL-SiC (some FS) SiL-SiC (some FS)	to ML CL-ML to ML CL-ML to ML (some SM)	Hummocks 20-50 Hummocks 20-75	50-90	Mod. well 1 Imp. 4 Poor 5 Mod. well 2 Imp. 5	wS-bS-lichen bS-CX bS-wB bS-tCX bS-tCX wS-wB-bS bS-lichen-tCX bS-tL-tCX	bS-Wi-Al Cx-Wi WB-Al tCx tCx WS-WB WS-WB-Wi tCx-Wi-tL	2 2	slopes (LX) developed on this unit (an on lesser areas of steep slope not map as CX), especially following fire or of disturbance of vegetation. Gulleying common even on gentle slopes upon remo of vegetation. West of the Richarson Mountains this unit is underlain by unconsoldiated basin-fill sediments. The subjacent non-glacial sediments in the lacustrine plains of the unglaciated area typically have a much lower ice
GLp [†] s Lp	Glaciofluvial- lacustrine plain	Glaciolacustrine silt and clay overlain by glacio- fluvial sand with minor silt, rare fine gravel. Discontinuous	1-35 + m sand, minor gravel 3-15 + m silt and clay	Flat to gently sloping Slope 0-2° Relief to 3 m	Drainage mainly sub- surface	0-20	No data; should be treated as GLpk until data available.	0	-								Active-layer detachment slides followe by development of retrogressive-thaw flow slides common on colluvial slopes (Cx) developed on this unit (and on lesser areas of steep slope not mapped as Cx), especially following fire or other distrubance of vegetation. Rota
GLpk [†]	Glaciofluvial	organic cover	1-35 + m	Flat to gently	Seepage centri-	25	Commonly up to 10 to 25% segregated	3	FSL to SiL FSL to SiL	SM to CL-ML SM to CL-ML	Hummocks 10-30 Hummocks 0-30	50-150	Poor 4	bS-lichen bS-tL-Cx bS-lichen tL-bS-Cx	wS-wB-Wi Cx-Wi-tL bS-wB tL-Wi-Cx	1	other distrubance or vegetation. Rota tional slope failures common along ban of larger streams where sand and silt thicker than 10 m. Gulleying is common even on gentle slopes upon removal of vegetation. The subjacent non-glacial sediments in the lacustrine plains of unglaciated area typically have a much lower ice content. Thermokarst processes active around pommargins; active-layer detachment slides
s Lpk	lacustrine thermokarst plain		sand, minor gravel 3-15 + m silt and clay	sloping, numerous shallow thermo- karst lakes and ponds Slope 0-5° Relief to 6 m	petal to ponds and lakes, intermittent seepage along fen-filled depressions between ponds and lakes.		ice as thin (lmm - 2 cm) seams in upper 2-3m of sand, but massive segregated ice rare in the sand; very high ice content (to 75% by vol.) as reticulate network or thick tabular bodies in underlying silt and clay.	2	FSL to SiL	SM to CL-ML	Hummocks 10-50	50-150+		bS-lichen bS-tL-Cx	wS-wB wS-wB-Wi Cx-Wi-tL		followed by development of retrogressive than flow slides common on colluvial sl. (Cx) developed on this unit (and on less areas of steep slope not mapped as Cx), especially following fire or other distribunce of vegetation. Rotational slope failures common along banks of larger streams where sand and silt is thicker than 10 m. Gulleying is common even on gentle slopes upon removal of vegetation. The subjacent non-glacial sediments in
Gp gGp s,gGp Gt gGt s,gGt	Glaciofluvial plain Glaciofluvial terrace	Sand, gravel, locally with veneer of eolian silt or sand	2-15 + m	Flat to gently sloping Slope 0-2° Relief to 5 m	Drainage mainly subsurface	0-5	Typically cement ice only, polygonal pattern on some areas of unit in Zones 0, 1 suggests possible wedge ice.	0	G + S (local silty veneer) G + S (local silty veneer)	GW-SW	10-40	50-150 75-150	Imp. 6 Poor 2 Well 5 Imp. 4 Poor 1 Well 5 Imp. 4	bS-lichen tL-bS-Cs Bi Bi-Wi tCx-sphagnum ws-lichen bS-lichen tL-Bi-Cx	WS-WB-Al bS-WB tL-Wi-Cx Cx Wi tCx WB-Wi-WS WB-bS-Wi Cx-Bi	1 1	lacustrine plains of the unglaciated artypically have a much lower ice content Offers good construction sites; major source of aggregate where material is gravel rather than sand.
Ge	Glaciofluvial plain,	Sand, gravel; silt, peat in	2-15 + m	Flat to gently sloping inter-	Drainage mainly	0-5	As GP, but with locally high segregated ice within silt and	3 0	G + S (local silty veneer)	GW-SW	Hummocks 0-10	75-150+		wS bS-wS-lichen bS-tL-Cx	wS-wB-grass wS-wB-bS Cx-tL	1	Same as Gp, Gt (above) except in
	channelled	channels		rupted by shallow channels and low scarps. Relief to 10 m, exceptionally to 30 m			below peat in channels,	2	G + S	GW-SW	Hummocks 0-10	75-150+		wS-wB bs-wS-lichen bS-tL-Cx	wS-wB-grass wS-wB-bS Cx-tL	1	channels which may contain peat and ice-rich silt. Where unit grades into units GLp, GLpk, the surface deposit is typically sand rather than gravel and may be under- lain by ice-rich silt.
Gh Gr Gm gGh gGr s,gGh s,gGh	Hummocky, ridged glaciofluvial deposits (includes eskers and esker com- plexes)			Hummocks and ridges, relief to 40 m Slope 5-15°	Drainage mainly subsurface	0	Typically no segregated ice in well drained sites, but segregated ice may be present in association with silt layers beneath depressions.	0	G + S	GW-SW	Polygons to 50 cm	50-150+	Imp. 2	lichen-Bi tCx wS-wB bS-wS	bare tCx wB-wS-grass wB-wS-bS	1	Offers good construction sites; major source of aggregate where material is gravel rather than sand.
tMp tMv	Moraine plain	Glacial till - typically clay, silt, minor sand and gravel.	tMp:2-20 m tMv:0-3 m tMpv:1-20 m	Flat to gently sloping (0-3%) except as indi-	Downslope seepage in shallow sub-	0-5	Commonly 10 to 25% segregated ice as thin (1 mm - 2 cm) irregular discontinuous seams in upper 2-	3	SiC (Some L-C)	GW-SW	Hummocks	50-75		bS-wS-lichen CotttCx tCx-sphagnum	wS-wB-bS	1	Potential subsidences on removal of vegetation typically less than 1 m (but note that unit may have
tMpγ		Locally up to 90% > 2 mm		cated by the slope superscript Relief to 5 m	parallel runnels		3 m. Thicker 10 cm to 3 m + ice lenses at depth occasionally in Zones 0, 1, 2, rare in Zone 3.	2	CL (some L) CL (some L)	-	Hummocks 20-60 Hummocks 10-40 Hummocks 0-30	50-80 50-150 50-200	Mod. well 2 Imp. 5	bS-lichen tL-bS-Cx-Al	WB-wS WB-wS-Wi Cx-A1-Wi WS-wB-bS 2S-wB-Wi Cx-A1 WB-wS-A1 bs tL-Wi-Cx	3	up to 10% unmapped fO or pO, and that locally ice content at depth may be high); because of drainage by numerous subparallel runnels, roads or berms normal to slope direction require numerous culverts to avoid impoundment of surface water.
Mp ¹ Mv ¹ Mpv ¹ Mp ² Mv ² Mpv ²	Moraine plain	Glacial till	tMp ¹ :2-20 m tMv ¹ :0-3 m tMpv ¹ :1-20 m tMp ² :2-20 m tMv ² :0-3 m tMpv ² :1-20 m	Slope ¹ 3-8° Slope ² 8-12°	Downslope seepage in shallow sub- parallel runnels	0-5	As tMp	1 2	SiC (some L-C) CL-C CL-SiC (locally	ML-CL	Hummocks 30-60 Hummocks 20-85 Hummocks 20-60	50-75 50-150 50-100	Poor 1 Mod. well 3 Imp. 6 Poor 1 Mod. well 5		wB-wS wB-wS-Wi Cx-A1-Wi wS-wB-bS	2	Potential subsidence on removal of vegetation typically less than 1 m; potential for creep of active layer, especially in slope category. Because of drainage by numerous subparallel runnels, roads or berms normal to slope direction require numerous culverts to avoid impound-
Md	Drumlin morain plain	Glacial till	2-20 + m	Moraine plain with individual drumlins, to fluted moraine	Parallel seepage or streams in fluted moraine, to trellis	0-15	As tMp	3	CL SiCL-C (some L-C)	CL	Hummocks 0-30 Hummocks 30-60	50-200	Poor 1	bS-lichen bS-tL-Cx wS-bS-wB bS-lichen tL-bS-Cx Cx tCx-sphagnum	wS-bS-Wi Cx-L wB-wS-A1 bS tL-Wi-Cx	1 1	ment of surface water. Similar to tMp; crests of drumlins and drumlinoid ridges typically well-drained, interveining depres-
				plain · Slope 2-10° Relief to 20 m	pattern or deranged drain- age in moraine plain with drumlins			2	GL-CL L-CL	CL to CL-ML GC-CL CL-ML to CL	Hummocks 20-60 Hummocks 0-30 Hummocks 0-30	50-90 50-150 50-200	Imp.	bS-wS-lichen tL-bS-Cx bS-wS-wB bS-lichen bS-tL-Cx	WB-WS-Wi Cx-A1-Wi WS-WB-bS WS-WB-Wi Cx-tL WB-WS-A1 bS tL-Wi-Cx	1	sions poorly drained; construction of roads, etc. easier parallel to than normal to orientation of drumlins.
din.	Subdued hum- mocky moraine	Glacial till	5-30 m	Broad hummocks 10 to 30 m high, 100 to 500 m across Slopes to 10°	Deranged; centripetal to local depres- sions	5-30	Commonly up to 10%, locally up to 40% segregated ice as thin (1 mm to 2 cm) irregular discontinuous seams in upper 2-3 m. Thicker (10 cm to 3 m +) ice lenses at depth common in Zones 0, 1, occasional in Zone 2.	1 2	SiCL-C (some L-C) CL-C CL-SiCL (locally some L)	CL (some CL-ML)	Hummocks 30-60 Hummocks 20-75 Hummocks 20-60	50-150 50-100	Poor 2 Mod. well 3 Imp. 5 Poor 2 Mod. well 5 Imp. 3	bS-wS-lichen tLbS-Cx bS-wS-wB bS-lichen	WB-WS WB-WS-Wi Cx-Al-Wi WS-WB-bS WS-WB-Wi	2	Summits of broad hummocks typically well drained, similar to tMp; lower slopes and intervening depressions may have high ice content, with potential for subsidence of several meters on removal of vegetation; retrogressive-thaw flow slides occur on colluvial slopes (Cx) developed on this unit west of Peel River
:Mh :,gMh	Hummocky moraine	Glacial till, minor gravel	15-50 + m	Individual to coalescent hummocks 15 to 50+ m high; Slopes to 20°	Deranged, centripetal to local depres- sions	0-15	Highly variable depending upon topographic position; crests of prominent ridges and hummocks well drained and ice-free to depths of 2-5 m; lower slopes	3	LG-CL GL-CL (local gra-	GC-GM to CL GC-GM to CL	Hummocks 15-50 Hummocks 0-60	50-90 50-150	Mod. well 2 Imp. 6 Poor 2 M.well-well5	CotttCx tCx-sphagnum wS-lichen	Cx-tL wB-wS	1	Crests of prominent ridges and hummocks offer restricted good construction sites. Ice content and potential for subsidence may be
tMr t,gMr	Ridged moraine Upland,	Glacial till, minor gravel	15-50 + m	exceptionally 30° Individual and compound straight to sinuous ridges 15 to 50+ m high; Slopes to 20° exceptionally 30°	Dov		as for tMm.	2	(local gra- vel deposits) GL-CL (loc- al gravel deposits)	GC-GM to CL	Hummocks 0-50	50-120	M.well-well6 Imp. 3	bS-wS-lichen tL-bS-Cx wS-wB-bS bS-lichen bS-tL-Cx	WB-WS-Wi-Al Cx-Al-Wi WS-WB WS-WB-Wi Cx-tL	1	high in depressions.
	Upland, glaciated	Glacial till - minor glaciofluvial sand and gravel, glaciolacustrine silt and clay, peat	1-5 m thicker in depressions	Rolling bedrock controlled top- ography with relief to 150 m Slopes to 15°	Downslope seep- age in subparallel runnels; perm- anent streams in valleys	0-5	As tMp, tMv on hilltops and gentle slopes with locally very abundant (up to 40% by vol.) segregated ice in silt and clay filled depressions,	1 2	CL-C (loc- ally silts & gravels) CL-SiCL (locally some L)	CL-ML)	Hummocks 20-60 Hummocks 20-60	50-100	Mod. well 4 Imp. 4 Poor 2 Mod. well 3 Imp. 5 Poor 2	wS-lichen bS-wS-lichen tL-bS-tCx wS-lichen bS-wS-lichen tL-bS-Cx	wB-Wi-wS wB-wS-Wi-A1 tCx-A1-Wi wB-wS wR-wS-Wi Cx-A1-Wi	3	
°g	Piedmont, glaciated	Mainly glacial till; widely distributed glaciolacustrine silt and clay in valleys	J-15 + m		Dendritic (to east) with major streams deeply incised	0	As tMp in uppermost 1-3 m; massive segregatedice common in both till and glaciolacustrine sediments at greater depth.	0	SiCL (some L-C)	ML-CL	Hummocks 30-60	50-75	Imp. 8 Poor 2	CotttCx tCx-sphagnum		2	Active-layer detachment slides and subsequent retrogressive-thaw flow slides common on colluvial slopes (Cx) developed on this unit.
US A.J	Sedrock	Creaccous sand- stones, shales.		Mainly prominent ridges, scarps	Generally freely drained but with	0	No records of segregated ice, but	3	Variable	-	0		Excess 7 Imp. to	bare tCx-sphagnum	bare	2	Carbonate rocks of Paleozoic age
used only n glacia- ed area)		stones, shales. Paleozoic sandstones shales, quartzites, carbonates		and hills devel-	drained but with some poorly drained depres- sions		possibility of ice in joints and in fracture zones; segregated ice may be present in silt-filled depressions. Ice-filled fractures observed locally in sandstone in Zone 1, probable also in Zones 0, 2, 3; thin ice lenses possible in shales near surface in Zones 0 to 3.	2	Variable Variable	-	0		Poor 3	tCx-sphagnum bare to scattered wB-Al-bS bS-tL-Cx Bare to scat- tered wB-Al-bS bS-tL-Cx	Scattered wB-bS Cx-Wi-tL Scattered wB-bS Cx-Wi-tL	1	Carbonate rocks of Paleozoic age provide suitable material for rip-rap and crushed aggregate; sandstones and shales of Imperial Formation readily rippable to provide fill; shales, especially bentonitic shales, of Cretaceous age subject to massive slides.
		MAP UNIT DESIGNATIO	ON														
- fen - peat - clay i - silt - sand	Genetic Cate O - organic A - alluvial C - colluvial E - eolian G - glacioflu	gory	Morph v - veneer (< 1 p - plain t - terrace d - drumlinoid s - striated (i	.5m thick)			3. INDEX M (Similar vegetati Compiled by W. 1	ion and grou	nd ice content)				I		Data compile	neral surf	
- sand - gravel - till h - shale s - sandston	M - moraina U - upland P - piedmont R - bedrock		m - rolling h - hummocky r - ridged k - kettled (glad	ciofluvial) arst (glacio-		1170	0 117A	ior a							90	100	Sand - 2.0 to 0.05 mm diameter Silt - 0.05 to 0.02 mm diameter Clay - smaller than 0.002 mm diameter
Mp ¹ -	nap unit designator Genetic category of morainal (glac	cripts: 1slope (3-8°) slope (8-12°) s is illustrated by the f designator "M" indicate ial) origin "t" indicates that the si	ollowing examples	i:	600	Old 1	1	106 N	1060 660					***	70	CLAY	
- - g At -	textural modifier is till, a mixture morphologic mod superscript """ is between 3 and 8° Genetic category of alluvial origin textural modifier	"t" indicates that the si of clay, silt, sand and ifier "p" indicates the sindicates that the surface designator "A" indicate	gravel sizes surface is a plain has a slope s that the unit is		\\	140°	2 m	100 K	3	100	of Good Hope	E 66°		30 CLA	SANDY LOAM	CLAY LO	SILTY CLAY CLAY LOAM
There the ar	material consists overlying gravel morphologic modi terrace (i.e. aborstream) reas of two or more cale, mixed units	of silt with significant fier "t" indicates that the significant of t	sand content, the area is a f the nearest all to be separately combination is tMp	and pfO:			138° 136° 134°	0 132	士州	Sans Sault	11	ormor ells		20 SAND SAND	Y LOAM	LOAM	SILT LOAM
ne unit comprise it comprise it comprise & are ignored. The use of the control of the control of the comprise it comprise it is not a control of the contro	prising over 50% o es 49-25% the com es 24-5%, the con ed.	f the total areas is show bination is shown as tM mbination is shown as tM stricted to maps 106 I,	vn first; where the fp - pfO; where th Mp/pfO; percentag	e secondary e secondary ges less than			LEGE Land Zone Bou 2 Zone Number Area of Study	N D					- di	Major visions	U.S.D.A. TEX	Percent So XTURAL pical names led gravels,	CLASSIFICATION Classification criteria for coarse-grained soils gravel- Cu = Dca/Dna > 4
	assumed	2. MAP SYMBOLS nate: or transitional:		scanned ve	nas been reprinted ersion of the origin ion par numérisatio apier	al map)					#200)	gravel	GW sand mixt fines GP Poorly gravel-st little of little of silt mixt GM d Silty grav silt mixt Clayey gravel-st clayer-st	raded gravel: and mixture: or no fines vels, grave: tures	Cr = 1 < D ² 30/D ₁₀ x D ₆₀ < 5
lacial limit	unconsolidated s without underlyi			GEOLO	EN FILE // 1973 GICAL SURV OTTAWA •	EX	5. VEGET	ATION					Coarse-grained store than half of material is Sands	than #4 sieve size) is lan than #4 sieve size) is lan fines Clean sands (Clean f thes (little or (little or fines)	SW Well-grade sands, l:	ed sands, gittle or no	el-sand- Atterburg limits above A line with $l_{\rm p} > 7$ ravelly fines $C_{\rm r} = 1 < D_{\rm 30}^2/D_{10} > 6$ $C_{\rm r} = 1 < D_{\rm 30}^2/D_{10} \times D_{60} < 3$ gravelly fines Not meeting all gradation requirements for SW It Atterburg limits below A line in hatched zone
oraine ridg	rp (bedrock) of ma		4				Data compiled by bS - black spruce (Picea mariana) wS - white spruce (Picea glauca) wB - white birch (Betula neoalaska Bi - dwarf birch (Betula glandulos)	ma)					(mc	(morethan ha is smaller t Sands with fi (appreciab) amount of fin	SC Clayey sar mixtures Inorganic fine sand	nds, sand-cl	or I _p < 4 lay Atterburg limits above A line with I _p > 7 very 1. Depending on percentages of fines (fraction smaller than
sker: דרק	rp (retrogressive	thaw now sinde): X	No	ite: for map-unit desi example below, see I	gnators arm	8	tL - tamarack (Larix laricina) Wi - willow (Salix sp.) Al - alder (Alnus sp.) tA - trembling aspen (Populus trem						than #200	and clays limit < 50)	ML silty or sands, or with slig	clayey fine r clayey sil ght plastici clays of lo	tty Less than 5% - GM, GP, SM, SP, Hore than 12% - GM, GC, SM, SC 5 to 12% - Borderline cases

Map Symbol	Name Mountains	LANDFORM Topography Forms ranging from flat-topped dissected	SURFICIAL MATERIAL Material Thickness Sandstone, siltstone,	GROUND ICE Little or none on moderate steep slopes;	**Occur-	rand	USDA Texture	ter reposed	Micro-relief (cm) Sorted nets and stripes,	Depth of Thaw (cm)	Drainage (decile) Excess. 3 Mod. well 5	Stable bare lichen-Er	After Fire bare Er-Wi	Steep slopes and high relief make much of this unit difficult for location of roads, pipeline, etc. Flattish mountain summits are common in the unit, and afford suitable terrain for most
Si Si, S S, Si S, Sh Si, Sh	developed on sandstone, siltstone, minor shale	mountains plateau, typically with sandstone capping, to irregular mountainous ridges typically developed on moderately to steeply dipping sandstone, with intervening valleys developed on shale	rubble; colluvium with silty to clayey matrix 0-3 m	locally high in slope- wash sediments on gentle slopes and valley floors		an sil	d silts, minor	D1 + D2)	terraces, minor hummocks 0-50 Minor soil stripes and	100+	Imp. & poor 2	bare-lichen		types of construction, but summit areas are mostly separated by intervening steep slopes. Steep slopes and high relief make this unit highly unsuitable for location of roads, pipelines, etc.; rockfalls and slides common.
M	Mountains developed on carbonate rocks (lime- stone, dolo- mite)	Includes rugged serrate mountains developed on limestone and dolomite White Mountains of Paleozoic age (northeastern Bell River map area only)	Gravelly to blocky colluvium with minor fines 0-3 m+	Little or none except very locally in slope wash sediments in restricted floors of narrow valleys	2 (0 gr		D1)	sorted nets 0-40	,	Well 1 Imp. & poor 1	bare-Bi		Gravelly character and low ice content make surficial materials
,A,Ch M	Mountains and high hills developed on limestone, argillite and chert of Road River Form- ation	Steep-sided, sharply rounded, branching mountain ridges developed on Road River Formation on eastern and western flank of southern Richardson Mountains	Platy argillite and blocky limestone and chert rubbles with minor fines 0-3 m+	Little or none except very locally in slope- wash sediments in restricted floors of narrow valleys	2	0* G	SIL-G	(D1)	Soil stripes, minor nets and terraces 0-40	70-100+	Excess. Mod. well Imp. & poor	bare-lichen Er-lichen tCx-Bi	bare bare-Cx tCx-Wi	relatively stable; subject to slow solifluction creep on steeper slopes; surficial material is suitable for road or berm construction; near surface bedrock can be ripped; high relief and steep slopes make unit unsuitable for location of roads, pipelines, etc. except on lowest flanks.
A,Q M	Mountains and high hills developed on argillites and quartzites	Broadly rounded mountains and high hills, developed on argillite and quartzites of Tindir Group (Precambrian)	Quartzite and argillite detritus with silty clay matrix; block felsenmeer on upper surfaces developed on quartzite	Low to nil	2	1* (G-GLS Some CL G-GLS	GM to SM some ML (D2) GM to SM some ML	Sorted nets and stripes some hummocks 0-40 Sorted nets and stripes some hummocks 0-40		Excess. Mod. well Imp. & poor Excess. Mod. well Imp. to poor	2 bare-lichen 5 Er-Bi	bare Al-Wi tCx bare Al-Wi tCx	Blocky felsenmeer developed on quartzite (mainly forming upper surfaces) is stable but material is too coarse for construction purposes and very difficult to trench. Surficial materials developed on argillite are mainly stable, offering suitable routing for roads and pipelines where relief and slopes are not excessive; locally, the quartzite is deeply weathered to uniform, mediumgrained white sand. The argillite bedrock is thin-bedded and probably readily ripped.
Сд	Mountains and high hills developed on conglomerate	often modified by cryoplanation, with occasional a sharp, elongated steeply dipping ridge	Gravelly to blocky colluvium with minor fines 0-2 m; locally thicker on lower slopes	Low to nil		1m*	gravel minor SL gravel minor SL	(D2) GW to GM (D1) GW to GM	Soil stripes 0-40 Soil stripes 0-40	50-100+	Excess. Mod. well Imp. to poor Excess. Mod. well	3 bare-lichen 6 Er-Bi 1 tCx-Bi 3 bare-lichen 6 Er-Bi-wS 1 bS-tCx-Bi	bare Er tCx bare Er tCx	Good drainage and mainly coarse surficial material with low ice content make this a stable terrain; high relief and steep slopes will make most construction difficult.
Sh,S Sh,Si,S Sh,S,Si Sh,S,Si	High hills developed mainly on shale with siltstone and sandstone	Intricately dissected, irregular ridges and uplands	Clayey colluvium 0.5 - 2 m locally thicker on lower slopes	Low but locally high on valley floors	2	0*	GCL and CL	(D1) ML to CL (D1)	Solifluction terraces, hummocks 0-50	50-100+	Well Imp. Poor	7 wS-lichen 1 bS-tCx 2 tCx-Bi	wB-Al tCx tCx-Wi	Intricate dissection makes this unit very unsuitable for location of roads or pipelines.
S, Si, Sh Si, Sh S, Sh	High hills developed on sandstone an siltstone wit minor shale	d h	Clayey discontinuous area of silt over weathered sandston and shale (typically clayey silt to sandy clay with sand- stone fragments; sandstone rubble on scarps and ridges developed on sandstone)		-		GSL-L CL GSL-L CL	GM to ML (D1) GM to ML (D1)	minor hummocks 10-40	60-100	Excess. Well Imp.& Poor Well Imp. Poor	1 Cx-bare 5 Er 4 tCx-Bi 5 wS-lichen bS-tCx 2 SphagtCx 3 wS-lichen	bare Cx-Cott. tCx wS-wB tCx tCx-Wi	Lower slopes and valley bottoms with potentially thick and icerich silt should be avoided; ridges and tops of scarps developed on sandstone or siltstone affords suitable routing for roads, pipelines, etc.; the sandstone and siltstone is mainly thin-bedded, readily ripped or crushed, but as road metal is too soft to withstand heavy traffic.
\$ \$i \$i,\$ \$,\$i	High hills developed or sandstone as siltstone	No. 14 No. 18 No	Rubble of sandstone and siltstone and colluvium composed of rubble in silty matrix	Nil to moderate	1	0*	G - VGSL minor SiL	ML to GM (D1) GW to GM Some ML (D2)	Sorted stripes and ne minor hummocks 0-40		Well	5 bS-tCx 2 SphagbS 3 bare-licher 3 Er-Bi-licher 4 tCx-Bi	tCx tCx-Wl	Surficial materials mainly highly stable; offers good routing for roads, pipelines except for limitations imposed by slope and relief. The sandstone and siltstone is mainly thin-bedded, readily ripped or crushed but as road metal is too soft to withstand heavy traffic.
°Н	High hills developed o carbonates	(Old Crow map area); cuesta ridges developed limestone of Permian and Carboniferous age	age colluvium with minor lines	Low to nil	2	1m*	For tops of hills For lower slopes See C*	see S, Si L	See C	See C		See C	See C	Except for local ice-rich silt on lower slopes and valley floors, surface is highly stable; limestone bedrock is generally thick-bedded and probably difficult to rip except in weathered near-surface layer; affords good source of rip-rap or crushed aggregate; high relief and locally steep slopes make unit mostly unsuitable for routing of pipelines, roads, etc.
Ch, Sh	High hills developed of chert and	(southern Eagle River map area) Irregular ridges comprised of prominent	Chert rubble (on ridges) to silty clay with chert fragments (on shale)	No data; probably little or none in ridges; locally high in upper 2 m in	2	1*	L-SIL some CL	ML to GN (D1)	Soil stripes, low hummocks 0-30	60-100	Mod. well		wS-wB	
G	shale High and lo	Broadly rounded hills and ridges with smooth	Sandy to gravelly detritus fors, derived from granite	depressions and saddles	1	0*	G and LG	GW to GI	M Soil stripes, some and hummocks	nets 80-12	Mod. wel	1 bare-lich l 8 Bi-Er por 1 tCx-Wi	bare Bi-Wi tCx	The moderate topography, the generally granular character of surficial materials, and low ground ice content of this unit make it highly stable; locally abundant residual granite boulders will pose problems for trenching equipment. Outcropping granite
G L	on granite	developed on granite of Old Crow range and Schaeffer Mtn. (Old Crow map area only) Irregular ridges and hills, mostly developed	on Variable cover of silt over weathered sandstone and	very high in thick	1 2 3		G and LG SiL-SiCL some G	GW to GI	and hummocks 0-30 Hummocks, minor		Imp. & p	1 8 wS-licher for 2 tCx-bS 2 wS-licher 6 bS-tCx-E 2 Sphagb	tCx ws-bs t tCx	forms tors on hilltops and ridges, where surficial cover is probably thin (1 to 2m); cover is probably thicker on lower slope. Joint spacing is granite as seen in outcrops along Old Crow Rive ranges from 1 to 6m in shear zones to 10 feet elsewhere. Lower slopes and valley bottoms with potentially thick, ice-rich silts should be avoided; ridges and tops of scarps developed on sandstone or siltstone affords good routing for roads, pipelines,
in any combinat	developed sandstone, minor sha	le l	shale (typically clayey silt to sandy clay with sandstor fragments) 0-3 m; thicker on lower slopes Organic silty clay or shale		3		SiL-SiCL some G	ML some G	Hummocks 20-60 Hummocks 30-60	50-80	Well Imp. Poor	2 wS-liche 6 bS-tL-tC 2 Sphagb 11 1 bS-tL-tC 7 bS-tL-tC	wS-wB x tCx s tCx-Wi- x bS-wB x bS-tCx	etc.; the sandstone and siltstone is mainly thin-bedded readily ripped or crushed, but as road metal is too soft to withstand heavy traffic. Bi Highly susceptible to terrain damage due to degradation of permifrost when vegetation and/or organic cover is removed; steeper slopes subject to active layer detachment slides; shale may fail
Sh, Si Sh	dominantl shale	y and siltstone	2-3 m Sandstone and siltstone	volume)		2 2m		ML GM to		60-1	Imp. Poor	7 bS-tL-tC 2 S phagb 2 bare-lic	x bS-wB x bS-tCx S tCx-Wi nen bare	by rotational slumping in banks of larger streams. Similar to High Hills developed on same lithologies except for significant areas of silt with high ice content on lower slopes an
S Si,Si,Si,Si	Low hills, dominantly sandstone siltstone	moderately deformed sandstone and siltstone		silts on lower slop and valley floors	es	1 1 11		GM to	hummocks 0-30	60-1	Mod. we Imp. Output Excess. Mod. we Imp. Do 100+ Well	4 Bi-tCx 2 bare-lic wS-bS-E bS-tCx 2 wS-liche	tCx hen bare i Bi-tCx tCx n wB-wS	valley floors; ridges and hills afford good routing for pipelines and roads; lower slopes and valley floors should be avoided.
S,Sh Sh,S	Dissected low hills developed sandstone and shale sandstone	drainage developed on Hat-lying sandstone shale of Eagle Plains Formation (west of Eagle Plains and River)	shale; coarse sandstone rubble on scarps develop on sandstone; local peat accumulations on valley floors 0.5-3 m	(up to 80% ice by volume) on valley floors		3 21	m SiL-SiCL some LG	ML some (Hummocks 20-60	30 0	Imp. Poor	5 bS-tCx- 3 Sphag	os tcx-Wi	
Cg L	Low hills develope conglome	d on	thicker in valley bottoms Discontinuous silt, over gravel (weathered congle erates) silt 0-3 m	Nil to moderate;	- 1	2 1	m SiL-SiCL some G and I	ML to	GM Stripes, nets and hummocks 10-50	50-	Excess. Imp. Poor	bare-lic bs-tCx- Sphag	Bi tCx-bS	may be expected on lower slopes and valley floors. On higher
С		ed on slopes	Organic sandy silt with a (limestone, dolomite) detritus; silt veneer on a slopes	on lower slopes,	s	2	1 L to VGL	ML to	GM Broad hummocks minor nets 0-30	, 60-	Mod. w Imp. Poor	ell 5 wS-mos 3 wS-bS- 2 bS-Bi-S	noss tCx-bS	
A,Q	Low hill develop argillity quartzity	ed on downslope seepage	Quartzite and argillite detritus with silty clay matrix; quartzite and argillite rubble in restr summit areas locally th silt on lower slopes and	ick		2	1 G to LG some SIL	GM some	10-50	inor 60	-100+ Well Imp. Poor	5 wS-Bi 4 bS-tCx 1 bS-tCx	-Bi tCx-bS	
Sh	P Undula plain domina shale	mainly on shale	valley floors			1	2m SiCL	MLt		70	-100 Imp. Poor	8 bS-tL 2 Sphag		Highly susceptible to terrain damage due to degradation of pe frost when vegetation and/or organic cover is removed; should be avoided in routing of roads, pipelines, etc.
SI, Sh		ped on (exceptionally to 8° in narrow pediments one, mountain valleys) steepening somewhat n	ear gravel	High to very hig silt; mostly low subjacent mater	in		0 SiL to SiCI		Hummocks 20-40		Poor	to poor 9 tCx 1 tCx-S	x tCx	aggregate ice thickness is relatively low because of thinness silt; burial of pipelines may be possible where trench depth exceeds thickness of silt. Roads or berms routed normal to
-	shale combi	in any in part with poorly integrated subparalle drainage	silt 1-2 m gravel 1-3 m Silt, organic silt over				2m SiL to SiCI		20-50 tussocks Hummocks 20-50 tussocks Low hummocks 10-30		Poor	to poor 9 bS-tC	x tCx S tCx-V	culverts to accommodate the downslope seepage of surface w
		oped in e	fine gravel derived frogranite		to	1	1 <u>SiL</u> LG	OL GM	Low hummock			to poor 10 bS-tC		Similar to pediments developed on S, Si, Sh except for
		nent Smooth, gentle slopes, typically less the steepening to 6° to 8° with gradual trans hill slopes above	an 5°, ition to Organic silt, silty cla commonly overlying of limestone detritus silt 1-2 m gravel 1-3 m	J 1		2	G G I SIL LG	OL GM	Hummocks 10-40		Poo	to poor 9 bS-tr 1 tCx-	moss tCx	
A, Q	B devel	oped on downslope seepage	Organic silt, clayey poorly sorted quartzi gravels silt 0-3 m gravel 1-2 m	Moderate to vehigh, with genincrease down	eral	2	1 SiL-SiCL G	OL GM	Hummocks 20-40		50-100 Imp Poo		Sphag. tCx	subjacent bedrock.
	D deve	ment Smooth, gentle slopes, mostly less that loped on lomerate	Organic silt, overlying gravel (weathered contents) 0.5 to 3 m	ng High to very h	igh in	2	lm SIL G	OI GV	Hummocks 10-50		50-100 Imp Poo	to poor 9 bS-fr 1 tCx		
	cor	they bottoms in M and H may be in less severe clima a reversely many of the hill tops or peaks may be in a matic zone. 1. MAP UNIT DESIGNATION	note severe				3. IN	DEX MAP OF	LAND ZONES					4. SOILS
	Slope categori 1 - 0 to 5° 2 - 5 to 15° 3 - 15 to 33° 4 ->33°	es Rock Type [†] Landform category Morph A-Argillite and/ M-Mountains: relief c = cu	lesta See unified chart	classification					plece and S. C. Zoltai					Data compiled by W. Pettapiece Microrelief is estimated on the mineral surfaces. Drainage is estimated from a combination of topographical, vegetal soil features.
	•	Q-Quartzite 100-500ft, 30 to S-Sandstone 160m) Sh-Shade P-Plains: relief < Si-Siltstone 100 ft, (30m) V-Volcanic B-Pediments and pediment-like surfaces S-Scarp Sl-Slide debris		1178	0		II/A	Inuvit	107 B					Sand - 2.0 to 0.05 mm diameter Silt - 0.05 to 0.62 mm diameter Clay - smaller than 0.002 mm diameter
	Rock type	Texture (Unified classification)		Crow Corcup	1 116 me R.	****	116/P 106 M	A A LIK Red R	106 N 106 O	1061				TO CLAY
	Slope categories	H Landform category		140°		2	m) 1	NOOE	3 Noof 16	Sans Sault	Fort Good Hope	rman	30	SILTY CLAY SANDY CLAY LOAM CLAY LOAM CLAY LOAM
	form hill der	example, the unit consists of a high cuesta- veloped on sandstone; slopes are mostly 5 to condary steeper slopes (15 to 33°); typical terial is silty gravel. (Note: for map-unit arranged in line e.g. "si,sLpk" see Legend			6.	138°	134°	134°	N D	130°	1280	126350	10 LOAM	SANDY LOAM SILT LOAM
	Geological	2. MAP SYMBOLS boundary, defined:						nd Zone B ne Number a of Stud	,				Major divisions	U.S.D.A. TEXTURAL CLASSIFICATION Group Symbol Typical names Classification criteria for coarse-grained soils
	Escarpmei	assumed or transitional: uts, bedrock: unconsolidated sediments (with or without underlying bedrock):					**Occurrence 1 = minor (less 2 = common (5) 3 = major (grea	6 to 20% of z	one)			.3	fer than #200) Gravels half of coarse fraction than #4 sieve size) rels Gravels with fines	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
	Backwall Backwall	scarp (bedrock) of major slide:					Da black spruce (Pi white spruce (Pi	cea mariana.	oy S. C. Zoltai				Coarse-grained son that of material is la ds f coarse fraction (more tha #4 sieve size) Clean sands Clean sands	Clayey gravels, gravel-sand-clay mixtures SW SW Sell-graded sands, gravelly sands, little or no fines SP Poorly graded sands, gravelly sands, little or no fines SP Poorly graded sands, gravelly sands, little or no fines SP Poorly graded sands, gravelly sands, little or no fines SP Sell-graded sands, gravelly sands, little or no fines SP Sell-graded sands, gravelly sands, little or no fines SP Sell-graded sands, gravelly sands, little or no fines SP Sell-graded sands, gravelly sands, little or no fines
	Prominer Tor: †	drumlinoid ridge: at hummocks, commonly gravel: * ation terrace:				wB Bi - tL - Wi - Al - tA - bPC Cx - tCx	- white birch (Bet dwarf birch (Bet tamarack (Larix s willow (Salix s alder (Alnus sp. trembling aspen) - balsam poplar sedge (Carex sp sedge tussock (ula neoalasi ula glanduli laricina) p.) (Populus tr (Populus ba .) Carex sp.)	kana) 08a) emuloide8) Lsamifera)				(mo (more than ha is smaller so)	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
	Cirque (t Rock gla Pingo: Meltwate	op of backwall): cier: (RG) channel (major): channel (minor):				Cott Lie Sph Er * St	t cotton grass (hen - Cladonia sp ag Sphagnum - Ericaceae (Lec	Eriophorum 1., Cetraria 1 Sp. 1 Sp., Cha tegories rep for alluvial u		oded/			of material is smaller than material is smaller than silts and clay ((iquid limit <	Inorganic clays of low to medium plasticity, gravelly clays, shown clays, silty clays, lean clays Organic silts and organic silty clays of low plasticity Inorganic silts, micaeous or diatomaceous fine sandy or NI
	Bedrock outcrops † Local adjace	outcrop (denoted only in Landform category "B"; widespread in other Landform categories, especial relief is measured from the nearest permanent stream to the major meltwater channel between Peel River, and to the "Ramparts" of Porcupine River, we	um, except for areas r and the head of										(more than half of Silts and clays (19ud limit > 50	on a distribution of the same
	measu	red from the tops of the valley walls.	OPEN	1973 CAL SURVEY	Rei		has been reprinte version of the orig tion par numérisa papier							