DRAINAGE PATTERN Organized drainage; ter at surface throughout Immer months GROUND ICE (NOTE 2)			ZONE (deciles)	AND THE PROPERTY AND ADDRESS OF THE PARTY AND	COMMENTS
ter at surface throughout	st 3 m	PREDOMINANT SOIL*	6S 6N 5 4 3 2	STABLE AFTER F Sedge-Bi or Same, pro	FIRE
The second second	Pt	Typic Mesisol (P-VP)	10 10 10 10 10 10 -	Sedge-Bi or Same, pro Sedge-Bi-tL in would not all zones	burn high compressibility and low strength of the material make it unsuitable for any type
pressions intercon- ted by seepage Segregated ice cont commonly 60-80% in	tent	Mesic Organic Cryosol (W-I) Fibric Organic Cryosol (W-I)	5 7 7 7 10 10	bS-Fm-Er in zones Sphagnum, 6S and 6N; bS- lichen-Er in zones	frozen peat mounds and thawed depressions and
peat; typically 10- thick. Segregated i mineral soil below. in wet depressions thawed to at least	-100 cm ice in . Peat commonly	Typic Fibrisol (P) Typic Mesisol (P)	5 3 3 3	4 and 5; lichen-bS- Er in zones 2 and 3 Sphagnum or Sphagnum, sphagnum-bS in	water bodies presents serious problems in construction of roads, pipelines, etc.; materia highly compressible when
Ice-wedge polygons present in zone 3 pressions intercon- Frozen at 0.3-0.5 m	m. Pt	Mesic Organic Cryosol (W-I)	- 7 - 7 - 10	zones 4, 5, 6S, and 6N bS-Fm-Er in zones 6S and 6N; bS-	thawed
sted by seepage annels; drainage aritinually being afficed commonly 60-80% in peat; typically 10-cm thick. Segregate ice in mineral soil	-100 ed 1 below.	Fibric Organic Cryosol (W-I)		lichen-Er in zones 2 and 3	mounds, some actively degrading, and thawed depressions and water bodies presents serious
Peat in wet depress and scarps commonly thawed to at least	у	Typic Fibrisol (P) Typic Mesisol (P)	- 3 - 3	Sphagnum or sphagnum-bS in zones 4, 5, 6S, and 6N	problems in construc- tion of roads, pipelines etc.; material highly compressible when thawed
braided areas inter- tent drainage through annels; in meander ar areas no integrated Ground ice in grave sand, and silt of 1 terraces in zone 2; Not observed elsewh	low;	Cumulic Regosol (W) Gleyed Cumulic Regosol (I)	3 - 3 3	wS-wB, bPo-wS- Eq, wS-bPo in zones 4, 5 and 6S	flooding; floodplains within the mountains are potential sources of
neander scroll ridges meander scroll ridges Permafrost and segrice also present in where bog is more t 1.5 m thick	n areas	Rego Gleysol (P) Gleysolic Turbic Cryosol (P)	3	Wi, Wi-Al, bPo-Al in zones 4, 5, and 6S	stream course and downstream changes in
rface drainage with- t integrated drainage gravel, sand, and s ternaces, up to 30	silt of to	Eluviated Eutric Brunisol (W) Orthic Eutric Brunisol (W)	6 6 6 6	wS-wB, wS-bPo, tA-wB, bPo, tA in zones 4, 5, 6N, and	stream regimen Good construction sites and aggregate source where material is
thick, in zone 2. N observed elsewhere	Not	Brunisolic Turbic Cryosol (W) Gleyed Eutric Brunisol (I)	1 1 1 1	6S; wS-wB, bS-bPo, tA-bS in zone 2 bPo-wS, wS-bPo, wB, Wi, t Wi, tA-wS in bPo	coarse
January January .	- M.	Brunisolic Turbic Cryosol (I) Rego Gleysol (P)	3 1	zones 4, 5, 6N, and 6S; bS-bPo, wS-bPo in zone 2	pake, is Oak
		Gleysolic Turbic Cryosol (P)	3 3 3 - 3	bS-sphagnum in zones 4, 5, 6N, and 6S; bs-Lichen- Er in zone 2	WITT NO
e or more shifting reams commonly present; wnslope seepage in orly defined runs	Variable	Cumulic Regosol (W) Gleyed Cumulic Regosol (I)	6 6 - 6 2 2 - 2	Mainly wB, tA, Wi, and Al in zones 2, 3, 4, 5, 6N, and 6S	drained building sites, but sudden channel shifting may cause
Silty clayey colluv contains disseminat		Rego Gleysol (P) Gleysolic Turbic Cryosol (P) Orthic Regosol (W)	2 2 - 2 2 2 - 2 5 - 5 5	tA, wS, wB at low tA, wB at elevations and elevation	
ice crystals to sea 1 m thick in zones and 6N	ams ML-CL	Orthic Eutric Brunisol (W) Gleyed Regosol (I) Gleyed Eutric Brunisol (W)	2 - 2 2	stunted Alpine fir or wS, Er, lichen at high elevations in zone 5; bS, wB	present major problems for any type of construc texture prefix included map unit if known
		1/1/1/1/1	相学品	at low elevations and Er, lichen at high elevations; cryoturbated sur- faces are unvege-	10-1
1 DICH		Rego Gleysol (P)	3 - 3 3	Sphagnum, bS-sphagnum-Er in	, Er
inly subsurface None observed, prob epage no ice present	bably SP-SW	Gleysolic Turbic Cryosol (P) Eluviated Eutric Brunisol (W)	5 - 5	P, tA-wB in zones 5 and 6S	Subject to wind erosion when vegetation mat is removed
	C) we t	Gleyed Eluviated Eutric Brunisol Rego Gleysol (P)	(I) 2 - 2		
rface seepage through Commonly 10-50% seg		Gleysolic Turbic Cryosol (P) Brunisolic Grey Luvisol (W)	3 - 3	sphagnum-Er in zones 5 and 6S wS, wS-tA in zones 5 and 6S;	Failure common along scarps; generally
d downslope seepage seams parallel with segregated ice in a culate network up t by volume, and thic tabular bodies in z	th bedding, SM of the second s	Orthic Grey Luvisol (W) Gleyed Grey Luvisol (I)	2 - 2	wS-tA, bS-wB- tA in zone 6N	unsuitable for location of structures because of poor bearing capacity and drainage character-
and 6N; discontinuo zones of segregated as seams, reticulat works, and tabular (up to 3 m thick) i	ous ed ice eted net- bodies	Luvisolic Turbic Cryosol (I)	- 2	Wi-Al in zones 5, 6S, and 6N	
northern part of zo 6S; no ice recorded southern part of zo except below p0	cone ed in	Rego Gleysol (P) Gleysolic Turbic Cryosol (P)	6 5	bS-Fm-Er, bS- tL-wB in zones 5, 6S, and 6N	
ranged None observed	CL-ML On-	Brunisolic Grey Luvisol (W) Orthic Grey Luvisol (W)	3 - 3	wS, wS-tA in tA zones 5 and 6S; wS-tA, bS-wB- tA in zone 6N tA	unsuitable for location of structures because
	37	Gleyed Grey Luvisol (I) Luvisolic Turbic Cryosol (I)	2 - 2	bS-wB-tA, bS- Wi-Al in zones 5, 6S, and 6N	of poor bearing capacity and drainage character- istics
		Rego Gleysol (P) Gleysolic Turbic Cryosol (P)	5	bS-Fm-Er,bS-tL- wB in zones 5, 6S,and 6N	
ainage mainly subsurface None observed	SP-GP	Eluviated Eutric Brunisol (W) Orthic Eutric Brunisol (W) Gleyed Eutric Brunisol (I)	2	P, P-wB-tA P, tA, wB P-wB-Wi, bS- wB-Wi, tA-bS-Wi	and aggregate source where material is
sinage mainly subsurface Frozen groundwater		Rego Gleysol (P) Eluviated Eutric Brunisol (W)	3	bS-Fm-Er Wi p-wB-tA, P in P, tA	elevations offer the best potential Good construction sites
gravel, sand, and s zone 2. Not observe elsewhere. Where overlying bog is mo than 1.5 m thick pe frost may be presen below	ed SP-SW ore erma-	Orthic Eutric Brunisol (W) Gleyed Eutric Brunisol (I) Rego Gleysol (P)	2 2	zones 6S and 6N bS-wB-Wi,P-wB- Wi,tA-bS-Wi in zones 6S and 6N bS-Fm-Er in zones 6S and 6N	and aggregate source where material is coarse
No segregated ice i well drained sites, segregated ice may	, but to	Gleysolic Turbic Cryosol (P) Eluviated Eutric Brunisol (W) Orthic Eutric Brunisol (W)	- 3	tA-bS-wB, P, P, tA, wB	B Good construction sites and aggregate
present in associat with silt layers be depressions in zone 3, and 6N	tion eneath	Gleyed Eutric Brunisol (I) Gleysolic Turbic Cryosol (P)	2	bS-Fm-Er, Wi	- 7/1/2
wnslope seepage in Locally 5-40% segre oparallel runs gated ice as thin (wnslope seepage in 2 cm) horizontal la	(1 mm-	Brunisolic Grey Luvisol (W)	4 - 3	wS-tA-wB, tA-P-wB in zones 4, 5, 6S, and 6N;	Failure common along scarps; poor source of aggregate; up to 10%
or in a reticulated work in zones 2, 3, 6N; presence control by exposure, elevat drainage, and/or or	d net- , and colled tion,	Orthic Grey Luvisol (W) Brunisolic Turbic Cryosol (W)	3 3	wS-wB, bS-wB in wB, tA zones 2 and 3	unmapped pO and/or fO; because of drainage by numerous subparallel runs, roads, or berms normal to slope directio
cover		Gleyed Grey Luvisol (I) Gleyed Brunisolic Grey Luvisol (2 - 3 2	wS-tA-wB, wS- tA-Wi in zones 4, 5, 6S, and 6N; bS-Wi-Al, bS-wB Al	numerous culverts requir
wnslope seepage in oparallel runs		Brunisolic Turbic Cryosol (I)	- 2 1 1	in zones 2 and 3	30
	V variable	Rego Gleysol (P) Gleysolic Turbic Cryosol (P)	5 4 5 5 4		og-agets
ellis pattern or Segregated ice may		Brunisolic Grey Luvisol (W)	4 - 4	and 6N; bS-lichen- Er in zones 2 and 3 P-tA, tA-P-wB, tA, P, wB	
ranged drainage in present in some dru lins and flutings i zones 2, 3, and 6N, although none has b observed; interveni	in , been ing	Orthic Grey Luvisol (W) Brunisolic Turbic Cryosol (W)	- 3	wS-tA-wB in zones 4, 5, and 6S; wS-wB, bS- wB-Wi in zones 2 and 3	ings are bedrock cored; crests of drumlins and
depressions in the same zones likely contain segregated ice; presence controlled by exposure	e,	Gleyed Grey Luvisol (I)	2 - 2 2	wS-tA-wB, wS- tA-wB in zones A1	flutings typically well drained; intervening depressions poorly drained
elevation, drainage and/or organic cove		Gleyed Brunic Grey Luvisol (I) Brunisolic Turbic Cryosol (I)	2 2	4, 5, and 6S; bS-Wi-Al, bS- wB in zones 2 and 3	100 Sal S
		Rego Gleysol (P) Gleysolic Turbic Cryosol (P)	4	bS-Fm-Er in zone Wi, Al 6S; bS-Fm-lichen- Er in zones 4 and 5; bS-lichen-Er in	1025- 100
tegrated, weakly None observed, prob	bably CL	Brunisolic Grey Luvisol (W)	6 - 6	zones 2 and 3 P-tA, tA-P-wB, P, tA, wB wS-tA-wB in	3 Crests of prominent ridges offer restricted
ntrolled by ridge		Orthic Grey Luvisol (W) Brunisolic Turbic Cryosol (W)	- 6	zones 4, 5, and 6S; wS-wB in zones 2 and 3	but good construction sites
Sine San	CL to GP-SP	Rego Gleysol (P)	4	bS-Fm-Er in zone Wi, Al 6S; bS-Fm-lichen- Er in zones 4 and	Man ord
ranged Crests of prominent	t CL	Gleysolic Turbic Cryosol (P) Brunisolic Grey Luvisol (W)	6 - 6	5; bS-lichen-Er in zones 2 and 3 P-tA, tA-P-wB, tA, P, wB	
hummocks well drain and ice free; lower slopes and depressi commonly have 5-40% segregated ice as	ned r ions	Orthic Grey Luvisol (W) Brunisolic Turbic Cryosol (W)	- 6	wS-tA-wB in zones 4, 5, and 6S; wS-wB, bS- wB in zones 2 and 3	hummocks offer restricted but good construction sites
thin (1 mm-2 cm) horizontal layers or in a recticulate network in zones 2, 3, and 6N; presence	e CL to	Rego Gleysol (P)	4	bS-Fm-Er in Wi, Al zone 6S; bS-Fm-	
controlled by expos elevation, drainage and/or organic cove	sure, GP-SP ee, er	Gleysolic Turbic Cryosol (P) Brunisolic Grey Luvisol (W)	6 - 6	lichen-Er in zones 4 and 5; bS-lichen- Er in zones 2 and 3	3 Summits of broad hum-
free; lower slopes depressions commonl have 5-40% segregat ice as thin (1 mm-2	and Ny ted 2 cm)	Orthic Grey Luvisol (W) Brunisolic Turbic Cryosol (W)	6 - 6 6 6 6	P-tA, tA-P-wB, wS-tA-wB in zones 4, 5, and 6S; wS-wB, bS- wB in zones 2 and 3	Summits of broad hum- mocks typically well drained and offer restricted but good construction sites
a reticulate networ in zones 2, 3, and presence controlled exposure, elevation	rk I 6N; ad by	Rego Gleysol (P)	4	bS-Fm-Er in Wi, Al	
drainage, and/or or cover	. 3	Gleysolic Turbic Cryosol (P)	- 4 4 4 4	lichen-Er in zones 4 and 5; bS-lichen- Er in zones 2 and 3	
Fine grained materia may contain segregatice in zones 2, 3, 6 and northern part of 65; presence control	ated 6N, of	Cumulic Regosol (W) Gleyed Cumulic Regosol (I)	4 - 4 4	bS-wB-Wi-fireweed or unvegetated in zones 2, 3,and 5	fails as debris avalanch in mountainous regions; large-scale failures are
by exposure, elevat	tion,	Rego Gleysol (P) Gleysolic Turbic Cryosol (P)	4 - 5 5	Wi, bS-Wi in Wi zones 2, 3, and 5	common along major river scarps in fine textured glacial deposits and in shale bedrock
or net: 3, con ele and ranged Wel fre dep havice hor a rin pre exp dra cov Fine may ice and 6S; by edra	in a recticulat work in zones 2 and 6N; presence trolled by expovation, drainag/or organic covolution of the covolution	in a recticulated work in zones 2, and 6N; presence trolled by exposure, vation, drainage, /or organic cover I drained sites ice e; lower slopes and ressions commonly e 5-40% segregated as thin (1 mm-2 cm) izontal layers or in eticulate network zones 2, 3, and 6N; sence controlled by osure, elevation, inage, and/or organic er e grained material contain segregated in zones 2, 3, 6N, northern part of presence controlled exposure, elevation, inage, and/or organic	in a recticulated work in zones 2, and 6N; presence trolled by exposure, vation, drainage, /or organic cover I drained sites ice e; lower slopes and ressions commonly e 5-40% segregated as thin (1 mm-2 cm) izontal layers or in eticulate network zones 2, 3, and 6N; sence controlled by osure, elevation, inage, and/or organic er E grained material contain segregated in zones 2, 3, 6N, northern part of presence controlled exposure, elevation, inage, and/or organic er CL Brunisolic Grey Luvisol (W) Orthic Grey Luvisol (W) Brunisolic Turbic Cryosol (W) Rego Gleysol (P) Gleysolic Turbic Cryosol (P) Cumulic Regosol (P) Gleysolic Turbic Cryosol (P) Cumulic Regosol (I) Rego Gleysol (P) Gleyed Cumulic Regosol (I) Rego Gleysol (P)	in a recticulated work in zones 2, and 6N; presence trolled by exposure, vation, drainage, /or organic cover CL Brunisolic Grey Luvisol (W) 6 - 6 e; lower slopes and ressions commonly e 5-40% segregated as thin (1 mm-2 cm) izontal layers or in eticulate network zones 2, 3, and 6N; sence controlled by osure, elevation, inage, and/or organic er Equation Material contain segregated are controlled sposure, zones 2, 3, 6N, northern part of presence controlled exposure, elevation, inage, and/or organic er CL Brunisolic Grey Luvisol (W) 6 - 6	in a recticulated work in zones 2, and 6N; presence trolled by exposure, vation, drainage, /or organic cover CL GP-SP Gleysolic Turbic Cryosol (P) Gleysolic Turbic Cryosol (W) GP-SP Gleysolic Turbic Cryosol (W) GP-SP Gleysolic Turbic Cryosol (W) GRego Gleysol (P) Gleysolic Turbic Cryosol (W) Gleysolic Turbic Cryosol (P) Gl

MAP SYMBOL	NAME	TOPOGRAPHY		DESCRIPTION OF MAP	UNITS FOR BEDROCK	UNIFIED	MOUNTAIN TERRA	SOILS AND VEGETATION ***	ENGINEERING COMMENTS
L* D L,D D,L L,Sh	Mountains developed in carbonate rocks -limestone and dolomite with minor shale	Mountains up to 1500 m with sharp ridge crests and steep slopes. Ram Plateau area forms a level surface, dissected by deep canyons	L,D D,L	includes Headless, Landry, and Nahanni formations in Mackenzie Mountains and Flett Formation, in Silent Hills and Liard Range includes Arnica, Manetoe, and Sombre formations in Mackenzie Mountains includes Whittaker and Sunblood formations in Mackenzie Mountains includes Delorme Formation in Mackenzie Mountains and Camsell Formation in Camsell Range includes Funeral Formation in Mackenzie Mountains	Bare rock with discontinuous patches of limestone and dolomite rubble, bedrock colluvium with a matrix of fines and sand and/or reworked till on crests and steep slopes; variable thicknesses of bedrock rubble and colluvium and/or reworked till at base of slopes; discontinuous veneer of till on plateau areas	GP-GC	Well developed stone polygons, stripes, and nets on flat to sloping ground. Numerous small solifluction lobes in McConnell Range of Franklin Mountains	Steep slopes: no soil development; lichen on bare surfaces. Base of slopes: Orthic Eutric Brunisol or Brunisolic Turbic Cryosol; above timberline Brunisolic Turbic Cryosol; lichen, ericaceous plants above timberline; white spruce, trembling aspen below timberline. Ram Plateau: Orthic Eutric Brunisol, Brunisolic Turbic Cryosol, or Orthic Regosol; lichen, ericaceous plants, some white spruce	Steep slopes and high relief present serious difficulties to engineering activities such as road, pipeline, and related construction; limestone and dolomite are highly resistant and could be used for construction material; coarse deposits of rubble make suitable construction sites and sources of aggregate
S S,Sh S,Si,Sh M	Mountains developed on sandstone with shale, siltstone, or limestone combinations	Mountains up to 1600 m with rounded summits, long moderately steep slopes, and extensive debris mantles	S S,Sh S,Si,Sh	includes Mount Clark Formation in Franklin Range and an unnamed Proterozoic sandstone in Moose Prairie area Mattson Formation includes Trout River and Redknife formations on Mackenzie Plain	Bare rock with discontinuous patches of sandstone, and limestone rubble, bedrock colluvium with a matrix of fines and sand and/or reworked till on crests and steep slopes; variable thicknesses of bedrock rubble and colluvium and/or reworked till at base of slopes	GP-GC	Stone polygons, stripes, and nets developed on flat to sloping ground	Steep slopes: no soil development; lichen on bare surfaces. Base of slopes: Orthic Eutric Brunisol, Brunisolic or Regosolic Turbic Cryosol, Orthic Regosolic Turbic Cryosol; lichen, ericaceous plants above timberline, white spruce, trembling aspen below timberline	Steep slopes and high relief present serious difficulties to engineering activities such as road, pipeline, and related construction; sandstone and limestone are stable and resistant and could be used for construction materials; shale is unstable and is subject to mass wasting; detachment slides and rotational slumping commonly occur when organic cover and/or vegetation are removed or altered; fine grained colluvium contains ice
S,Sh H	High hills developed on sandstone and shale with minor limestone member	Rounded summits and moderately steep slopes off the lower areas of the main mountain ranges	S,Sh S,Si,Sh	Mattson Formation includes Trout River and Redknife formations on Mackenzie Plain	Discontinuous patches of clayey, silty, sandy colluvium, sandstone and limestone rubble, reworked till, and/or bare rock on slopes and summit areas; variable thicknesses of bedrock rubble and colluvium and/or reworked till at base of slopes	GC-GP	Stone polygons on flat surfaces. Terracettes and poorly developed stripes on slopes	Orthic Eutric Brunisol, Brunisolic or Regosolic Turbic Cryosol; trembling aspen, white birch, white spruce	Shale is highly unstable and is subject to mass wasting; detachment slides and rotational slumping commonly occur when organic cover and/or vegetation are removed or altered; figrained colluvium contains ice; sandstone and limestone rubble could be source of aggregate
Sh,Si,S Sh Sh,S Sh,S,Cg Sh,L,Si	High hills developed on shale with limestone and siltstone members	Well rounded summits with moderate slopes, forming much of the lower areas between Franklin Mountains and Front Ranges of Mackenzie Mountains to the west	Sh,Si,S Sh Sh,S Sh,S,Cg Sh,L,Si	Fort Simpson Formation includes Horn River and Klassen formations Fort St. John Formation and Cretaceous shale and siltstone of the Interior Plains Buckinghorse Formation Upper Devonian shale, limestone, and siltstone of the Interior Plains	Discontinuous patches of clayey, silty, sandy colluvium, sandstone, and limestone rubble, reworked till and/or bare rock on slopes of summit areas; variable thicknesses of bedrock rubble and colluvium, and/or reworked till at base of slopes	boon by	Stone polygons on flat surfaces. Terracettes and poorly developed stripes on slopes	Brunisolic or Regosolic Turbic Cryosol; trembling aspen, white birch, white spruce	Shale is highly unstable and is subject to mass wasting; detachment slides and rotational slumping commonly occur when organic cover and/or vegetation are removed or altered; fine grained colluvium probably contains ice; sandstone and limestone rubble could be source of aggregate
5,Si,Sh L	Low hills developed on sandstone and shale with a small area of limestone	Moderate to gentle slopes and rounded summits containing little or no glacial drift indicate bedrock control of topography in formerly glaciated	S,Si,Sh	includes Trout River Formation	Veneer of clayey, silty, sandy colluvium; some with till and/or rubble	GC-GP to ML	Geomerphology	Orthic Eutric Brunisol, Brunisolic or Regosolic Cryosol, Orthic Regosol; trembling aspen, white birch, white spruce	Shale is highly unstable and is subject to mass wasting; detachment slides and rotational slumping commonly occur when organic cover and/or vegetation are removed or altered; fine grained colluvium may contain ice in northern areas or at higher elevation

same lithologies may occur within these areas. Also describes complex units too small spruce are present below timberline, and ericalceous plants and lichen are present to be mapped separately

This map has been produced from a scanned version of the original map

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Symbols are printed in red on the face of the map and may form geological boundaries Geological boundary (defined or approximate, assumed or transitional)..... End or lateral moraine..... Crevasse fillings, moraine ridges..... Drumlinoid ridges, striae, flutings (direction of ice movement known, unknown)...... Esker (direction of flow known, unknown).... Beach ridge (depositional, erosional).... Meltwater channel (large, small)..... Area of potential slumping..... Patterned ground..... Rock glacier... NOTE 1 MAP UNIT DESIGNATION

LEGEND

Note: Some map units and symbols shown in the legend may not appear on this map

A combination of letters is used to designate each map unit or component of a compound map unit, e.g. gAf. The upper case letter indicates the broad genetic class; the lower case letter (s) that follows indicates morphology; the lower case letter (s) in front of the genetic classification describes texture. A number superscript is used to indicate class of slope, e.g. tMp' is used for ground moraine with slope $2^{\rm O}-5^{\rm O}$

Morphologic Modifier (placed after genetic category) (placed in front of genetic category) p - plain d - drumlinoid r - rock and rubble 0 - organic A - alluvial t - till b - beach c - channelled r - ridged h - hummocky C - colluvial g - gravel E - eolian m - rolling k - thermokarst t - terraced e - eroded L - lacustrine G - glaciofluvial x - complex f - fan c - clay M - morainal s - striated v - veneer (i.e., (<1.5m flutings) thick) S - slump

Number Superscript

1 - gentle slope $(2^{\circ}-5^{\circ})$; 2 - steep slope $(5^{\circ}-15^{\circ})$ - slope is up to 20° in Cx units

Complex Units - a dash (-) means "with 16-49%" of the following unit (e.g., tMp-p0, p0 constitutes 16-49% of - a dash (-) means "with 16-49%" of the following unit (e.g., tmp-po, po constitutes 16-49% of the area)
- a slash (/) signifies that the following unit comprises 5-15% of the total area within the boundaries of that complex unit
- a plus (+) indicates the presence of an unknown percentage of a second unit; less than 5% of a second unit is ignored
- fractionated units indicate a veneer of one unit over a thicker zone of another unit: (e.g., s.siLpv a flat-surfaced veneer of sandy, silty lacustrine material over till) - brackets () separate groups of units (e.g., (p0-f0)-tMp means p0 containing 16-49% f0, and 16-49% of the total area is tMp

N.B. - one textural modifier signifies the dominant material
 - commas used between textural modifiers for distinct lithologies: e.g., g,s,siAp - floodplain consisting predominantly of gravel and sand with minor silt

NOTE 2 INDEX MAP OF CLIMATICALLY SIGNIFICANT ECOLOGICAL ZONES (Compiled by C. Tarnocai) TERRITORY Zone boundary Zone number5

NOTE 3 SOILS (by C. Tarnocai) *Drainage characteristics of soils N.B. - all Gleysols have a peaty surface layer and are associated with a small amount of organic soils
- soils developed on bedrock areas have the
lithic contact from 10 to 50 cm below the
mineral surface W = wellI = imperfect P = poor VP = very poor

Example of Soil Classification Soils developed on si,sLh
In climatic zone 65, 50% of soil cover is either Rego Gleysol or Cryic Rego Gleysol,
20% Gleyed Grey Luvisol, and 30% Brunisolic Grey Luvisol
In climatic zones 4, 3, and 2, there are either no exposures of si,sLh, or not
enough mappable exposures to warrant generalisations about the soil type

NOTE 4 VEGETATION (by C. Tarnocai) Vegetation: species abbreviation bS - black spruce (Picea mariana) Sedge - Carex Sp. Cottongrass - Eriophorum sp. wS - white spruce (Picea glauca) wB - white birch (Betula neoalaskana) Lichen - Cladonia Sp., Cetraria Sp. Sphagnum - Sphagnum Sp. Bi - dwarf birch (Betula glandulosa)

Er - Ericaceae (Ledum, Chamaedaphne, Kalmia, etc.) tL - tamarack (Larix laricina) Fm - feathermosses Wi - willow (Salix Sp.) P - pine (*Pinus banksiana* and *Pinus contorta* var. *latifolia*) Al - alder (Alnus Sp.) tA - trembling aspen (Populus tremuloides) Fireweed - Epilobium Angustifolium bPo - balsam poplar (Populus balsamifera) Eq - horsetails (Equisefum sp.)

> NOTE 5 UNIFIED SOIL CLASSIFICATION

		Group Symbol		Typical Names	Classification criteria for coarse grained soils				
Gravels (more than half of coarse fraction is larger than No.4 sieve size)	Clean gravels Gravels with fines (little or no (appreciable fines)	GW		Well graded gravels, gravel-sand mixtures, little or no fines	size), , SW, ing	$C_u = D_{60}/D_{10} > 4$ $C_r = 1 < D^2 30/D_{10} \times D_{60} < 3$			
		GP		Poorly graded gravels, gravel-sand mixtures, little or no fines	0 1 8	Not meeting all gradation requirements for GW			
		GM	d	Silty gravels, gravel-sand-silt mixtures		Atterberg limits below A line or 1 _p < 4	Above A line with $4 < l_p < 7$ are borderline cases requiring use or dual symbols		
		GC	3	Clayey gravels, gravel-sand- silt mixtures		Atterberg limits above A line with lp>7			
Sands (more than half of coarse fraction is smaller than No.4 sieve size)	is smaller than No.4 sieve size) Sands with fines Clean sands (appreciable (little or no amount of fines) fines)	SW		Well graded sands, gravelly sands, little or no fines	fines (frac ssified as SM, SC; 5 t	$C_u = D_{60}/D_{10} > 6$ $C_r = 1 < D^2 \ _{30}/D_{10} \times D_{60} < 3$ Not meeting all gradation requirements for SW			
		SP		Poorly graded sands, gravelly sands, little or no fines	Depending on percentages of coarse grained soils are classP; More than 12% - GM, GC, dual symbols				
		SM	d	Silty sands, sand-silt mixtures		Atterberg limits below A line or 1p < 4	Limits plotting in hatched zone with 4<1p<7 are borderline cases requiring use of dual symbols		
		sc		Clayey sands, sand-clay mixtures		Atterberg limits above A line with l _p > 7			
Silts and clays (liquid limit <50)		ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity	q143	170	WE SO		
		CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays					
		OL		Organic silts and organic silty clays of low plasticity					
ts and clays id limit>50)		МН		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts					
		СН		Inorganic clays of high plasticity, fat clays	43				
	Sands (more than half of coarse fraction is larger than No.4 sieve size) silts and clays	and clays (more than half of coarse fraction is smaller than No.4 sieve size) limit <50) Sands with fines (little or no (appreciable amount of fines) fines)	Silts and clays (liquid limit <50) Sands with fines (liquid limit <50) Sands with fines (little or no amount of fines) Sands with fines (little or no fines)	Silts and clays (liquid limit <50) Sands with fines (little or no amount of fines) A Sands with fines (little or no fines)	Symbol Well graded gravels, gravel-sand mixtures, little or no fines Gravels or no fines Well graded gravels, gravel-sand mixtures, little or no fines Gravels or no fines G	Sands with fines (fraction smaller than half of coarse fraction is smaller than hold sieve size) Sands with fines half of coarse fraction is smaller than hold sieve size) By Sands with fines or no fines (spreadline or no fines) Clean sads (little or no fines) Class days days days days days days days d	Well graded gravels, gravel-sand mixtures, little or no fines Well graded gravels, gravel-sand mixtures, little or no fines Well graded gravels, gravel-sand mixtures, little or no fines GN Well graded gravels, gravel-sand mixtures, little or no fines GN GN Well graded gravels, gravel-sand mixtures, little or no fines GN GN Well graded gravels, gravel-sand mixtures, little or no fines GN GN Well graded gravels, gravel-sand mixtures GN GN Well graded gravels, gravel-sand gravelly gravels, gravel-sand-silt mixtures GN GN Well graded gravels, gravel-sand gravelly gravels, gravel-sand-silt mixtures GN GN Well graded gravels, gravel-sand-silt gravel gravels gravel g		

NOTE 6 BEDROCK AND MOUNTAIN TERRAIN MAP SYMBOL DESIGNATION TOPOGRAPHIC SYMBOL SLOPE ANGLE MORPHOLOGIC MODIFIER M Mountain: local relief greater than 450 m H High Hill: local relief 150-450 m D Dolomite L Limestone d dissected L Low Hill: local relief 30-150 m Texture - see NOTE 5

Organic clays of medium to high plasticity, organic silts

(Bedrock) (Texture - surficial)
D, L GC-GP
This describes a dissected area of mountainous relief where the dolomite and limestone bedrock is covered by a discontinuous residual or colluvial veneer of clayey gravels, gravel-sand-silt mixtures, and poorly graded gravels, with slopes generally 15°-35°, in places > 35°, but locally 5°-15° 3,4,2 (Slope angle in order of abundance).

Title of this map should read Surficial Geology and