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BIOPHYSICAL LAND CLASSIFICATION OF THE BOOTHIA PENINSULA AND NORTHEAST KEEWATIN, N.W.T.

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INTRODUCTION

Boothia Peninsula and the northern portion of the District of Keewatin (north of latitude 68° N), an area of approximately 64,000 km^2 (25,000 square miles) were surveyed as part of a biophysical study (see Figure 1).

The objective of this biophysical study was to classify and map the arctic terrestrial environment in terms of landforms, surface deposits, soils, vegetation, permafrost, ecoregion and ecodistrict. A.N. Boydell, J.A. Netterville and K.A. Drabinsky provided the landform and surficial deposit input and C. Tarnocai the soil, vegetation, permafrost, ecoregion and ecodistrict input.

The biophysical maps, produced at a scale of 1:125,000, included the following N.T.S. map areas (see Figure 2): 67H, Franklin Strait East (only the Boothia Peninsula portion); 57G, Brentford Bay East and West; 67E, Pasley Bay East; 57F, Thom Bay East and West; 57E, Easter Cape East; 67D, Cape Felix East (only the Boothia Peninsula portion); 57C, Spence Bay East and West; 57D, Harrison Island East and West; 57B, Rae Strait East and West; 57A, Pelly Bay East and West; and 47B, Committee Bay West.

This interim report provides a brief description of the land classification system, a description of the ecoregions and ecodistricts, a list of the landforms, soils and associated vegetation and the terrain sensitivity ratings.

METHODOLOGY AND DEFINITIONS

Previous biophysical land classifications were developed and utilized in the forested regions of Canada. The biophysical land classification system used in the current study is that described by Lacate (1969) but

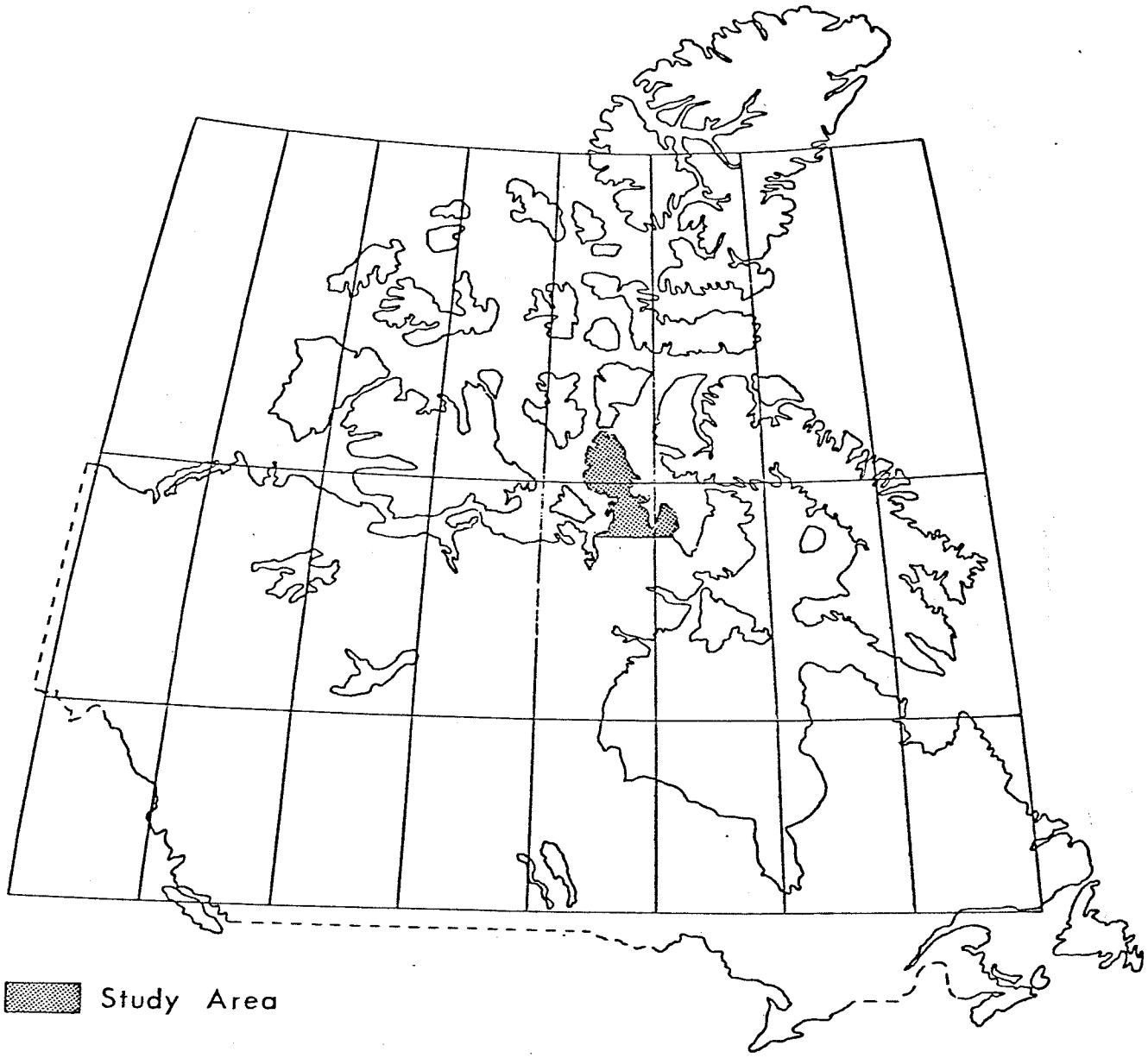

Figure 1. Map indicating the location of the Boothia Peninsula-Northern Keewatin study area in the Central Canadian Arctic.

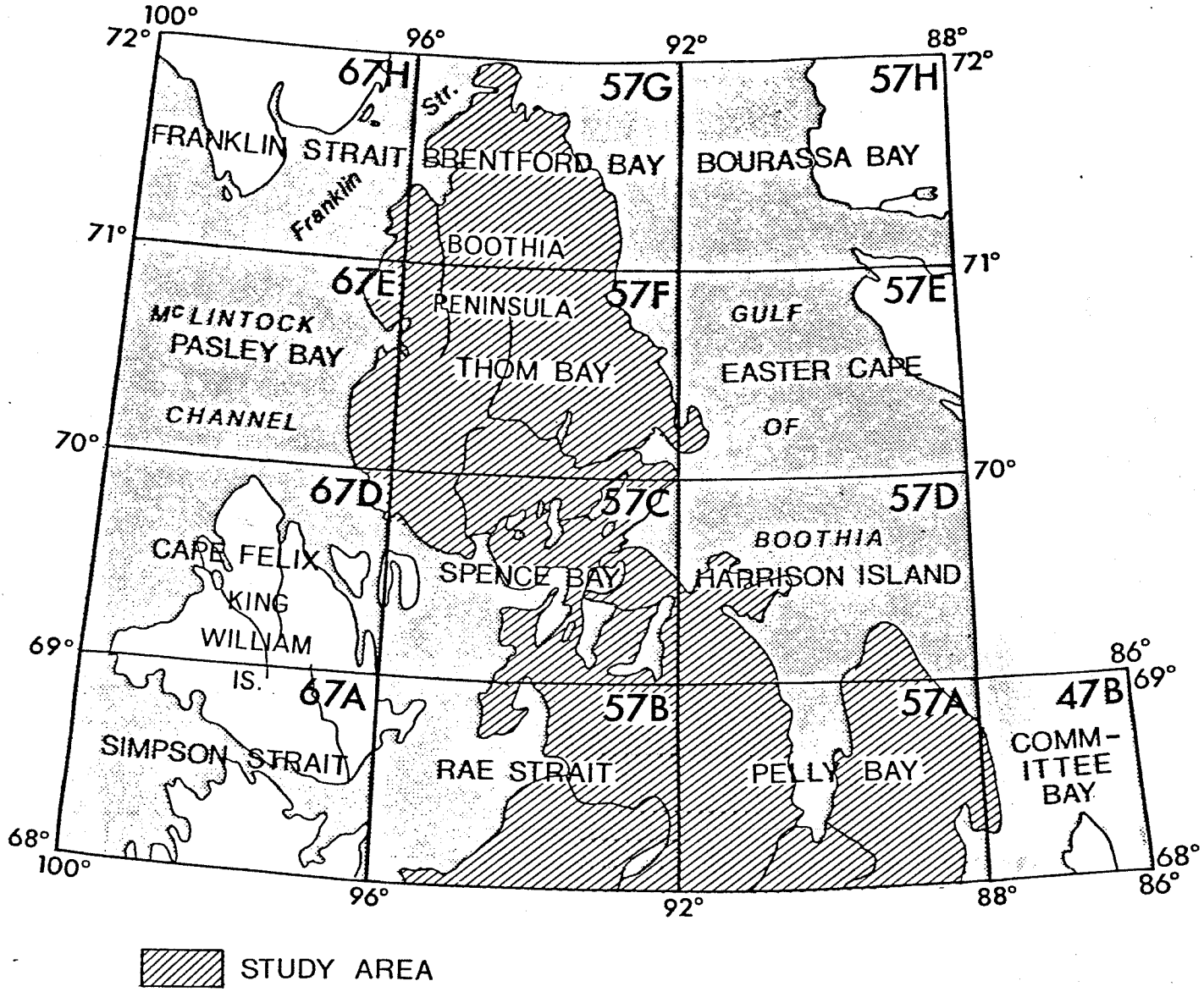

Figure 2. N.T.S. map sheets surveyed during the project.

the terms and definitions used have been somewhat modified to fit the arctic environment. The terms used in this current study are defined as follows:

> Ecoregion: The ecoregion represents similarities of climate as determined by vegetation, soils and, to some degree, the permafrost condition, which then produce specific ecosystems on material having similar properties (Tarnocai and Boydell, 1975). The ecoregions in this study were mapped on a 1:1,000,000 scale.
>
> Ecodistrict: The ecodistrict is a subdivision of the ecoregion and represents similarities of geological, physiographical and geomorphological patterns, soil parent materials and associated ground ice conditions. The ecodistricts in this project were mapped on a 1:250,000 scale and the boundaries are identified on the 1:125,000 biophysical maps.
>
> Ecoarea: The ecoarea or mapping unit is a recurring pattern of landforms, soils and vegetation. Most of the areas mapped in this project are a single landform type, soil association and vegetation cover class with the remainder being complexes. The ecoareas in this project were mapped on a 1:125,000 scale.

DESCRIPTION OF ECOREGIONS

Two ecoregions, the Low-Arctic and the Mid-Arctic, were delineated in the study area (see Figure 3). A description of these ecoregions is as follows:

Low-Arctic Ecoregion

This ecoregion covers the southern quarter of the study area and is designated by the ecoregion symbol L on Figure 3. There is continuous vegetation cover except on bedrock and eroding surfaces. Its northern limit coincides with the northern limit of some ericaceous species (*Ledum decumbens*, *Vaccinium Vitis-idaea* and *V. uliginosum*) and also with that of the tussock-forming *Eriophorum* species. Some willows up to 30 cm high are also present along the river valleys. The soils in this region are dominantly Turbic Cryosols developed on marine silt and clay and sandy loam textured till materials. Minor amounts of Static Cryosols (soils not affected by

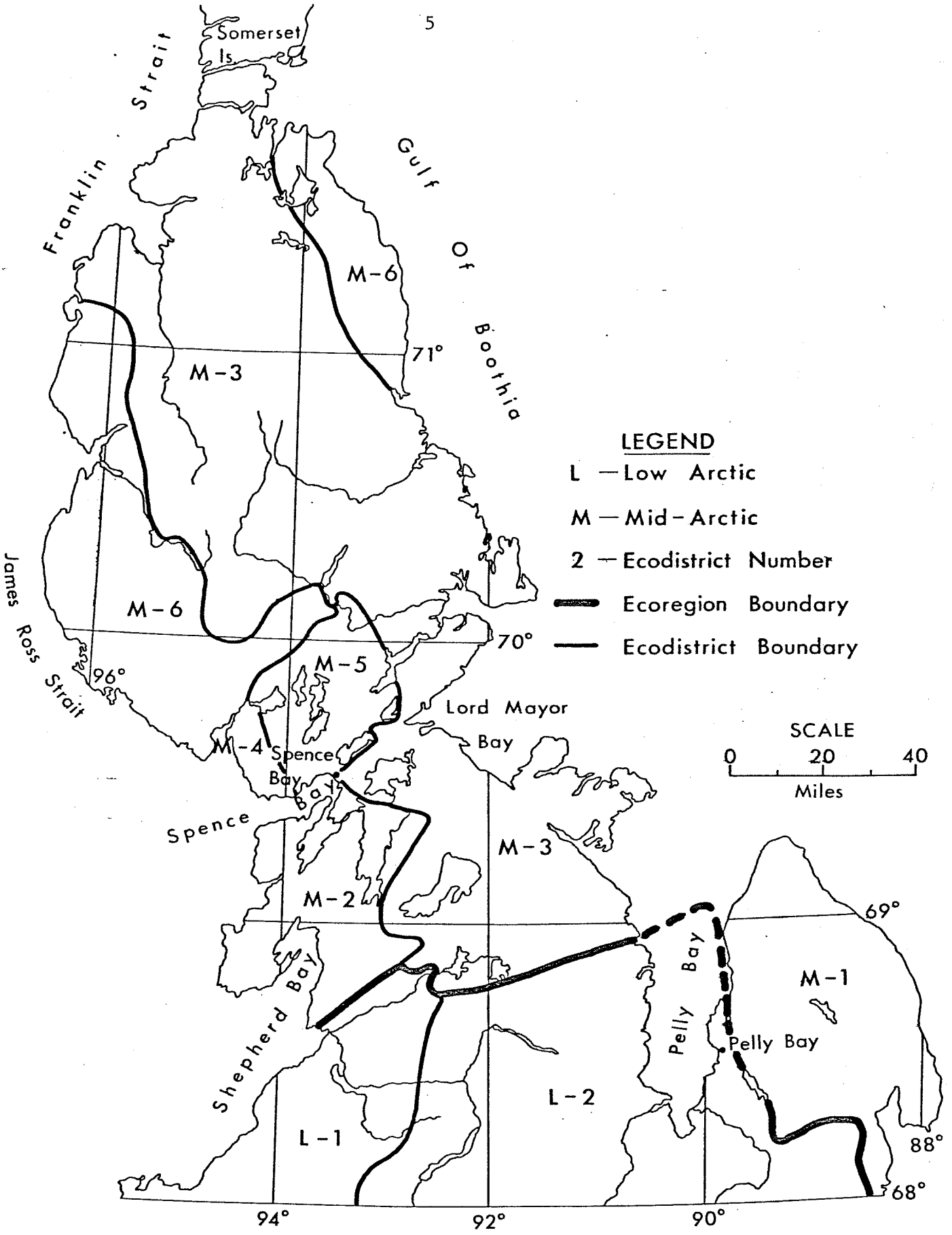

Figure 3. Ecoregions and ecodistricts in the study area.

cryoturbation) which have developed on coarse textured fluvial outwash and marine sand and beach deposits are also present. The most common patterned ground types in this ecoregion are the non-sorted circles, ice wedge polygons and earth hummocks. There is some active peat development in this region but these peat deposits cover only small areas and are relatively shallow.

The thickness of the active layer under various drainage conditions and soil materials is as follows: well to imperfectly drained till, 80 to 90 cm; poorly drained till, 40 to 70 cm; well drained sand and gravels, 70 to 90 cm; poorly drained sands and gravels, 40 to 60 cm; imperfectly drained marine silts and clays, 40 to 60 cm; poorly drained marine silts and clays, 30 to 40 cm; well to imperfectly drained alluvium, 60 to 80 cm; and poorly drained alluvium, 30 to 50 cm.

Mid-Arctic Ecoregion

This ecoregion covers approximately three-quarters of the study area and is designated by the ecoregion symbol M on Figure 3. This region is characterized by sparse vegetation cover except on poorly drained areas where continuous vegetation occurs. Cryoturbation is very active and downslope soil movement begins to occur on steeper unvegetated slopes. The soils of this ecoregion show weaker horizon development than soils in the Low-Arctic region. They are, however, much more affected by cryogenic processes, especially cryoturbation and, along the sea coast and higher elevations, by wind erosion. The dominant soils in this region are Turbic Cryosols which have developed primarily on till and fine textured marine materials with some Static Cryosols (soils not affected by cryoturbation) occurring on coarse textured fluvial outwash and marine sand and gravelly

materials. The most common patterned ground types in this ecoregion are sorted and non-sorted circles, nets, polygons and earth hummocks. Very little peat formation is found in this region. Peat deposits existing in this area are strongly eroded and cover only very small areas.

The thickness of the active layer under various drainage conditions and soil materials is as follows: well to imperfectly drained till, 70 to 90 cm; poorly drained till, 40 to 70 cm; well drained sands and gravels, 70 to 90 cm; poorly drained sands and gravels, 40 to 60 cm; imperfectly drained marine silts and clays, 40 to 60 cm; poorly drained marine silts and clays, 30 to 40 cm; well to imperfectly drained alluvium, 40 to 70 cm; and poorly drained alluvium, 30 to 50 cm.

DESCRIPTION OF ECODISTRICTS

The various ecodistricts delineated in the study area are designated by an arabic number following the ecoregion symbol (see Figure 3). A description of these ecodistricts is as follows.

Ecodistrict L-1

Flat to gently undulating lowland, consisting primarily of thick noncalcareous to weakly calcareous marine silt and clay (Arrowsmith clay, see analysis of parent material samples in Table 1) with minor amounts of noncalcareous marine sand (Kellet River sand, see Table 1). Low granitic hills with various amounts of noncalcareous till (Pelly Bay till, see Table 1) are present, especially in the eastern part of this district. Some shallow peat deposits occur in small areas, mainly in the western part of this district. Massive ground ice, ice lenses and vein ice in the near surface permafrost are commonly associated with the Arrowsmith clay. Massive ice wedges associated with polygons are common in

Table 1

PHYSICAL AND CHEMICAL COMPOSITION OF SOIL PARENT MATERIALS

Name of Material	Sample No.	Textural Class	Sand % (2.0 - 0.05 mm)	Silt % (0.05 - 0.002 mm)	Clay % (less than 0.002 mm)	pH	Conductivity mmhos/cm	$CaCO_3$ Eq. %	Stones %
TILL MATERIALS									
Amituryouak Till	C215	SL	74.1	19.6	6.3	7.6	0.45	41.8	-
	C220	SC	50.0	9.0	41.0	7.7	0.60	57.4	31
	C221	SCL	53.8	15.0	31.2	7.8	0.48	46.9	7
	C222	SL	57.1	4.2	38.7	7.9	0.83	51.5	24
	C251	SCL	70.5	7.1	22.4	7.7	0.40	48.3	15
	DC6	L	51.2	35.3	13.5	8.0	0.82	42.3	-
Kugajuk Till	C259	SL	73.4	14.0	12.6	7.7	1.36	10.5	-
	C269	SCL	63.4	14.5	22.1	7.6	0.34	12.6	6
	C276	SL	69.9	17.7	12.4	7.4	0.34	8.2	-
	C288	SL	70.5	17.2	12.3	7.8	0.60	9.7	6
	C294	SCL	58.8	23.1	18.1	7.9	0.40	18.8	19
Pasley Bay Till	C15	SL	57.6	30.8	11.6	7.7	0.41	62.6	27
	C119	SL	56.7	31.2	12.1	7.7	0.43	47.2	-
	C209	SCL	53.5	23.9	22.6	7.7	0.62	36.3	16
	C227	SL	69.2	23.1	7.7	7.8	1.01	56.0	-
	C258	SL	65.8	14.6	19.6	7.8	0.52	79.1	-
	DC1	SL	57.4	33.2	9.4	7.8	0.43	38.9	15
	DC3	L	37.1	47.7	15.2	7.6	0.43	30.2	13
	DC5	SI	72.9	20.6	6.5	7.9	0.57	32.9	16
Pelly Bay Till	C26B	S	87.0	10.6	2.4	7.4	0.32	1.9	-
	C186	SL	54.9	27.1	18.0	7.0	0.35	0.9	9
	C195	SCL	57.4	14.9	27.7	5.0	0.30	0	-
	C272	LS	87.1	8.1	4.8	7.1	0.33	1.1	-
	C279	SL	72.5	12.5	15.0	7.7	0.52	2.5	24
	C286	LS	82.5	9.6	7.9	6.9	0.24	1.0	-
	C303	LS	86.2	9.6	4.2	6.6	0.21	0	22
Sagvak Till	C78	SL	64.8	27.1	8.1	7.6	0.26	36.5	23
	C180	SL	68.2	18.7	13.1	7.7	0.47	31.0	-
	C192	LS	79.4	14.9	5.7	7.4	0.34	9.5	-
	C218	SL	78.3	11.2	10.5	7.5	0.39	31.1	10
	DC2	SL	69.6	19.2	11.2	7.7	0.40	21.3	22
MARINE SILT AND CLAY									
Arrowsmith River Clay	C284	C	3.4	13.3	83.3	7.5	0.50	0.5	0
	DC4B	CL	25.0	46.1	28.9	4.5	0.18	0	0
Babbage Bay Silt	C23	SiL	31.9	58.5	9.6	7.7	0.23	66.0	0
	DC7	SiCL	9.3	60.6	30.1	8.1	2.00	29.6	0
Logan Bay Silt	C297	SiCL	4.2	62.5	33.3	7.6	0.31	16.9	0
Mary Jones Loam	C14	SL	65.7	22.7	11.6	7.0	0.32	6.4	0
Netsilik Clay	C125	C	19.1	38.4	42.5	7.1	0.41	3.1	0
MARINE SAND									
Kellet River Sand	C129	S	100	0	0	5.8	0.12	0	0
	C131	S	100	0	0	5.5	0.08	0	0
	C274	S	94.7	5.1	0.2	5.7	0.14	0	0
	DC4A(C)	S	97.3	2.5	0.2	5.2	0.11	0	0
	DC4A(Cz)	S	96.8	2.7	0.5	7.2	0.29	0.7	0
ALLUVIUM									
Sanagak Loam	C80	LS	84.0	11.9	4.1	7.3	0.26	9.5	0
	C115	LS	87.4	6.5	6.1	7.6	0.29	15.8	1
	C223	SiL	11.6	70.0	18.4	-	0.49	5.1	0
Stael Point Sand	C177	S	91.8	5.9	2.3	5.9	0.13	0	0

Kellet River sand and Stael Point sand. The ice wedges are especially well developed where Kellet River sand overlays marine clay (mapped as Kellet River 2 soil association). Pelly Bay till is associated with only segregated ice crystals and small ice lenses.

Ecodistrict L-2

The western and central portion of this district (area between Pelly Bay, Arrowsmith River and L-1 district boundary) is a Precambrian upland with moderate relief. Low granitic hills with a discontinuous veneer of Pelly Bay till occur mainly in valleys and depressions. The surface material of the eastern central part of this district, which lies in the Arrowsmith River area, is dominantly marine clay (Arrowsmith clay) while to the east, the terrain is dominated by low granitic hills with various amounts of Pelly Bay till and Arrowsmith clay. Kellet River sand commonly occurs in the southern part of this district.

The ground ice conditions in this district are similar to those in district L-1. Massive ground ice is commonly associated with Arrowsmith River clay. Massive ice wedges associated with polygons commonly occur in Kellet River sand and Stael Point alluvium. Pelly Bay till is associated with only minor amounts of ice in the form of ice crystals and small ice lenses.

Ecodistrict M-1

This district is characterized by a low local relief. The dominant materials are moderately to strongly calcareous till (Kugajuk till, see Table 1) which forms a thin mantle over carbonate bedrock and marine beach deposits (Cape Barclay gravel). Bedrock outcrops occur sporadically in this district, commonly as scarps, 10 meters or more in height and extending

laterally for several kilometers. Marine silt (Login Bay silt, see Table 1) is found only in small areas.

Massive ground ice is associated with Login Bay silt. One pingo developed on this material ~~and~~ is associated with a great deal of ground ice (Tarnocai and Netterville, 1976). Ice wedge polygons are associated with some of the sandy marine deposits in this area. The Kugajuk till material is associated mainly with ice lenses and segregated ice crystals.

Ecodistrict M-2

The dominant surface material in this lowland area is very strongly to extremely calcareous till (Pasley Bay till, see Table 1). Sandy and gravelly ice contact materials are also found in this district and occur mainly as isolated knolls and ridges. Carbonate bedrock outcrops are scattered throughout this district. Wave modification of all landforms has been extensive. Bedrock hills, drumlins and eskers are commonly surrounded by marine sandy and gravelly beaches. Some fine textured weakly calcareous marine material (Netsilik clay) is found, mainly in low-lying areas.

Pasley Bay till is generally associated with moderate amounts of ice, mainly in the form of ice crystals and ice lenses. Netsilik clay contains much greater amounts of ice, occurring in the form of massive ground ice, ice lenses and vein ice. Sandy deposits are associated with ice wedge polygons.

Ecodistrict M-3

This is the largest ecodistrict in the study area and is comprised of the southern section of the Boothia-Somerset Arch complex. It consists of greatly dissected Precambrian granites and gneisses (Blackadar, 1967).

This ecodistrict, a fairly rugged upland with a maximum elevation of 591 m, contains deeply entrenched river systems and fiord-like valleys (Boydell, et al., 1975 a).

The dominant surface material is glacial till. Moderately to strongly calcareous till (Sagvak till, see Table 1) occurs in the southern half of the area (south of Agnew River) and extremely calcareous till (Amituryouak till, see Table 1) is found in the northern half of the area (north of Agnew River). Coarse materials are mainly represented by ice contact and glaciofluvial sands and gravels, and by recent and raised marine beach and alluvial deposits. Some very strongly eroded peat deposits are found in valleys. Most of these peats are very shallow (less than 1.5 m) and are associated with former alluvial deposits.

The deep till material contains a moderate amount of ice in the form of segregated ice crystals and ice lenses. Most of this till, however, is a till veneer over bedrock and has a low ice content. The deeper coarse textured sediments are associated with massive ice wedges. Small isolated peat polygons are also associated with ice wedges which are in an eroding state. Throughout the area frost-heaved bedrock is common. This phenomenon is associated with fractured bedrock where water builds up in the cracks. Large blocks of bedrock material are heaved up to 0.5 m or more.

On steeper, unvegetated slopes downslope movement of till materials occurs. Downslope movement affects the active layer of soil material and indicates an unstable surface.

Ecodistrict M-4

This district is an upland, approximately 300 m above sea level, with very irregular local relief. The surface deposits are dominated by

very strongly to extremely calcareous till (Pasley Bay till, see Table 1). Granitic bedrock outcrops are common throughout this district.

The till material contains moderate amounts of ice. Cryogenic activities, especially cryoturbation, are very strong and sorted patterned ground types (circles, nets and stripes) are very common. There is evidence of downslope movement of till materials on steeper slopes. Frost-heaved granitic bedrock is also common.

Ecodistrict M-5

This low-lying plain rises little more than 90 m above sea level. A mantle of very strongly to extremely calcareous till (Pasley Bay till) covers most of this ecodistrict. Granitic rocks, however, protrude through the till, especially in the Lake Hansteen, Lake Jekyll and Middle Lake areas. Small separated outliers of limestone bedrock outcrops, related to those occurring in ecodistrict M-6 to the north, are also present. Coarse textured glaciofluvial, ice contact and marine beach materials are also found in this district.

The till material contains moderate amounts of ice, mainly in the form of ice lenses and ice crystals. Some of the coarse textured materials are associated with ice wedges with some of these ice wedges being strongly eroded.

Ecodistrict M-6

This coastal area on the west and northeast side of Boothia Peninsula is dominated by very strongly to extremely calcareous till (Pasley Bay till) and carbonate bedrock. Coarse textured ice-contact and esker materials are common in the Josephine River area and northwest of Lake Hansteen. Marine sand and gravel deposits are very common throughout this district. Strongly

to extremely calcareous marine silt (Babbage Bay silt, see Table 1) is found in depressions.

Pasley Bay till is associated with moderate amounts of ground ice as has been described for the previous ecodistricts. The Babbage Bay silt contains greater amounts of ice than the till. The ice in this material is found in the form of ice lenses and vein ice. The coarse textured materials are associated with massive ice wedges.

DESCRIPTION OF LANDFORMS

The genetic landforms are defined and briefly described in this section (Boydell, et al., 1975b).

Origin:

MORAINAL. Relating to accumulations of unsorted, unstratified glacial drift (till) deposited chiefly by the direct action of glacier ice in a variety of landforms that are primarily independent of control by the surface on which the drift lies.

ICE-CONTACT OUTWASH. Landforms consisting of stratified deposits formed in contact with melting glacier ice, such as an esker or kame.

PROGLACIAL OUTWASH. Pertaining to the landforms and stratified deposits produced by meltwater flowing from wasting glacier ice.

MARINE. Pertaining to materials deposited in marine environments. These may form a blanket of offshore silts and clays, or may occur as a series of marine nearshore features, largely composed of gravel and sand, such as spits, bars and beaches.

DELTAIC. Refers to materials deposited in broad, nearly flat, alluvial tracts of land resulting from the accumulation of sediment supplied by a river in such quantities that it is not removed by tides, waves and currents of standing water bodies. Largely refers to fossil forms.

ALLUVIAL. Sorted sediments of wide particle size range, transported and deposited by running water in postglacial time. Units are subjectively mapped as active or inactive. Active floodplains are those immediately adjacent to and below the assumed or apparent maximum annual flood level of the river or stream which deposited them. They commonly support only scant vegetation due to yearly flooding and deposition of fresh sediment. The surfaces of inactive floodplains are generally at an elevation of 1 to 3 m above the assumed or apparent maximum annual flood level. Vegetation cover is commonly 100 percent.

EOLIAN. Pertains to deposits such as loess or dune sand whose constituents were transported, and deposited, by wind. Sand dunes are the only type of eolian landform situated within the map area.

BEDROCK. A general term for the rock, usually solid, that underlies unconsolidated surficial material, or is exposed. Types of bedrock encountered in the study area are grouped into either "granitic" or "carbonate" classes. (Refer to GSC Papers 61-18, 63-19, and Bulletin 151).

Bedrock Type:

GRANITIC. A term broadly applied to identify coarse-grained igneous or metamorphic rock containing quartz as an essential component, along with feldspar and mafic minerals; mainly refers to granite and granite gneiss; includes minor outcrops of carbonate and clastic rocks.

CARBONATE. A term intended to identify rocks consisting primarily of carbonate minerals, such as limestone or dolomite. Includes minor occurrences of conglomerate, sandstone, siltstone and shale.

Morphology:

PLAIN. A flat and commonly level area, large or small, with little or no apparent relief.

ROLLING. A gently to strongly defined succession of low hills or broad undulations that impart a wave effect to the surface.

HUMMOCKY. A gently to strongly defined succession of closely spaced mounds, knolls, and hillocks.

RIDGED. An area of generally uniform surface possessing well-defined but scattered ridges, such as beach ridges or crevasse fillings.

TERRACED. Refers to the presence of one or more, relatively level or gently inclined surfaces, bounded along one edge by a steep ascending slope and along the other by a steep descending slope. Terraces commonly occur along the margin, and above the level of an ocean, lake or river, marking former water levels.

KETTLED. An area characterized by numerous steep-sided, bowl- or basin-shaped depressions often containing a small lake or pond. A rare landform within the map area, occurring in only a few ice-contact, or near-glacial, outwash deposits.

FAN. A gently sloping mass of alluvial material forming a segment of a very low cone, commonly at a place where there is a noticeable change in gradient. Only alluvial fans have been mapped. Colluvial fans, deposited chiefly by mass wasting have not been mapped. They are a common landform situated at the base of most scarps in bedrock-dominated terrain.

Morphologic modifier:

DISSECTED. A term referring to a network of gullies, ravines, valleys and remnant flat-topped interstream ridges, formed by stream erosion acting upon a relatively even topographic surface.

WASHED. A general term referring to landforms which have been modified in some manner by wave action, primarily marine. The process has resulted in the sorting of surface materials, or in the formation of scattered minor beaches. Washed landforms are common below an elevation of 150 m (500 ft.) a.s.l. north of Spence Bay, and below 200 m (650 ft.) a.s.l. south of Spence Bay. Within the map area, the highest known occurrence of marine deposits is at an elevation of about 225 m (750 ft.) a.s.l. on an unnamed island in Pelly Bay (68°57'N, 89°58'W).

BOULDER-COVERED. Refers to terrain which is covered by boulders of random size and spacing. Primarily identifies areas of felsenmeer. These areas will normally present severe problems of ground vehicle access.

DESCRIPTION OF SOILS AND ASSOCIATED VEGETATION

The description of soils and the associated vegetation is presented in table form (see Tables 2 to 8). More detailed soil descriptions, along with analytical soil data and vegetation descriptions, will be presented in the final report. All soils in the study area are classified as Cryosols* according to the Canadian System of Soil Classification.

Soils were mapped as soil associations. The soil association is a sequence of soils of about the same age which have developed on parent material of similar origin and physical and chemical characteristics, but having unlike genetic characteristics because of variation in relief and drainage. The soil associations are named after local geographic names. The numbers after the name indicate the change in genetic profile types (subgroups) or lithological changes within a 1.5 m depth (veneer). Soil associations occur under similar climatic (ecoregion) conditions. Thus,

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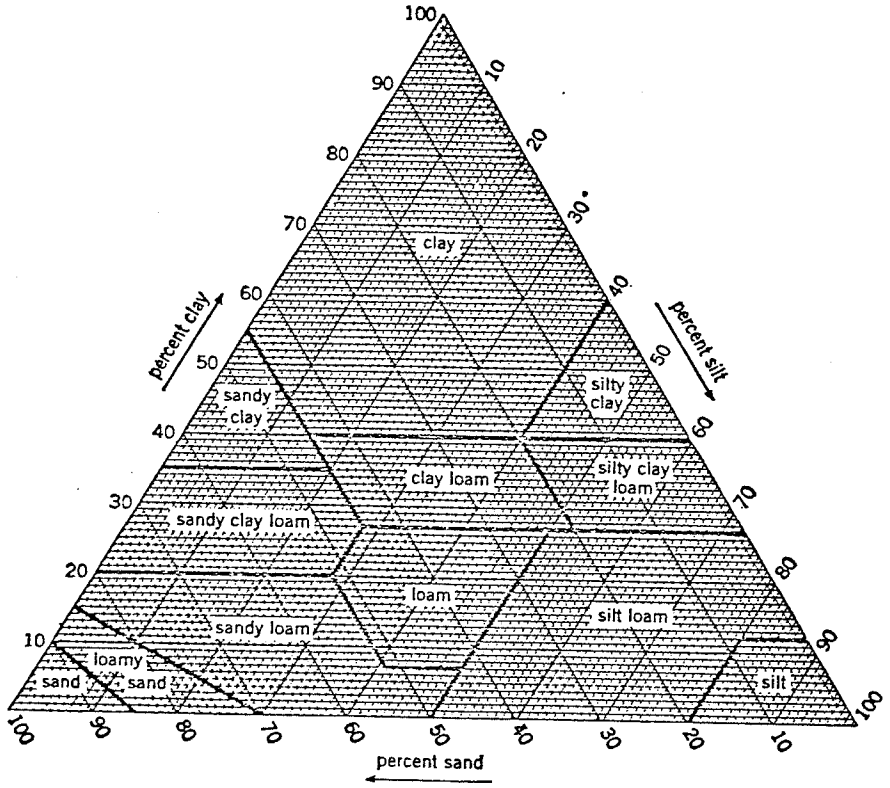
* See Classification of Cryosols: Proc. of the Ninth Meeting of the Canada Soil Survey Committee, Univ. of Sask., Saskatoon, May 16-18, 1973, p. 346-358.

soil association names do not cross ecoregion boundaries. They could occur, however, on similar parent materials in several different ecodistricts within the same ecoregion.

The soil parent materials were described on the basis of the origin, texture and $CaCO_3$ equivalent.

Texture: Textural classes are determined on the basis of the relative percentages of clay (below 0.002 mm), silt (0.002 to 0.05 mm), and sand (0.05 to 2.0 mm) present. The chart showing the basic soil textural classes is found below.



An example of how the textural class can be determined from the triangle is as follows: material with 25.0% sand, 46.1% silt and 28.9% clay falls into the clay loam textural class.

Calcareous Classes: The calcareous classes are determined on the basis of the $CaCO_3$ equivalent. The classes are as follows:

a)	Weakly calcareous	2-5%	$CaCO_3$ equivalent
b)	Moderately calcareous	6-15%	" "
c)	Strongly calcareous	16-25%	" "
d)	Very strongly calcareous	26-40%	" "
e)	Extremely calcareous	>40%	" "

Soil Drainage Classes: The three soil drainage classes used are described below:

Well drained. Water is removed from the soil readily but not rapidly. Well drained soils are commonly coarse to intermediate in texture, although soils of other textural classes may also be well drained. Well drained soils, especially coarse textured materials, have the deepest active layer.

Imperfectly drained. Water is removed from the soil slowly enough to keep it wet for significant periods but not all of the time. Imperfectly drained soils commonly have a slowly permeable layer within the profile, a high water table, additions through seepage, or a combination of these conditions.

Poorly drained. Water is removed so slowly that the soil remains wet for a large part of the time. The water table is commonly at or near the surface during a considerable part of the year. Poorly drained conditions are due to a high water table, to a very shallow active layer, to seepage or to some combination of these conditions.

In Tables 2 to 8, drainage classes are abbreviated as follows: W - well drained; I - imperfectly drained; and P - poorly drained.

Vegetation: Vegetation communities are named according to the dominant species and listed (see Tables 2 to 8) in order of increasing moisture condition of the site. The species abbreviations used in Tables 2 to 8 are shown below.

Table 2

SOILS AND ASSOCIATED VEGETATION
DEVELOPED ON GLACIAL TILL

Map Symbol	Ecoregion	Parent Material	S O I L		Vegetation
			Soil Association	Gen. Name and Drainage	
Am1	M	Extremely calcareous, sandy loam to sandy clay loam glacial till.	Amituryouak 1	Brunisolic Turbic Cryosol (W, I 9)	N, Dr-Ca, Dr-Sa, Sa(cb), Sa-L, Sa-Ca, Ca-L, Ca-Sa-Dr Ca-Mo-Dr, Sa-Mo
				Gleysolic Turbic Cryosol (P 1)	Cx-Mo
Am2		Less than 1.5 m of extremely calcareous sandy loam to sandy clay loam glacial till over Precambrian bedrock.	Amituryouak 2	Brunisolic Turbic Cryosol (W, I 5) Lithic Brunisolic Turbic Cryosol (W 4)	N, Dr-Ca, Dr-Sa, Sa(cb), Sa-L, Sa-Ca, Ca-L, Ca-Sa-Dr Ca-Mo-Dr, Sa-Mo
				Gleysolic Turbic Cryosol (P 1)	Cx-Mo
Am3		Less than 1.5 m of extremely calcareous sandy loam to sandy clay loam glacial till over limestone bedrock.	Amituryouak 3	Brunisolic Turbic Cryosol (W, I 5) Lithic Brunisolic Turbic Cryosol (W 4) Gleysolic Turbic Cryosol (P 1)	N, Dr-Ca, Dr-Sa, Sa(cb), Sa-L, Sa-Ca, Ca-L Ca-Sa-Dr Ca-Mo-Dr, Sa-Mo Cx-Mo
Kg1	M	Moderately to strongly calcareous, loamy sand to sandy clay loam glacial till.	Kugajuk 1	Brunisolic Turbic Cryosol (W, I 8) Regosolic Turbic Cryosol (W, I 1)	Dr-Ca-L, Dr-L-Ca(cb), L-Dr-Ca, Dr-Ca, Dr-Ca-Mo(cb)
				Gleysolic Turbic Cryosol (P 1)	Cx-Mo
Kg2		Moderately to strongly calcareous, loamy sand to sandy clay loam glacial till.	Kugajuk 2	Regosolic Turbic Cryosol (W, I 8) Brunisolic Turbic Cryosol (W, I 1)	Dr-Ca-L, Dr-L-Ca(cb), L-Dr-Ca, Dr-Ca, Dr-Ca-Mo(cb)
				Gleysolic Turbic Cryosol (P 1)	Cx-Mo
Kg3		Less than 1.5 m of moderately to strongly calcareous, loamy sand to sandy clay loam till over carbonate bedrock.	Kugajuk 3	Regosolic Turbic Cryosol (W, I 5) Lithic Regosolic Turbic Cryosol (W, I 5)	Dr-Ca-L, Dr-L-Ca(cb), L-Dr-Ca, Dr-Ca, Dr-Ca-Mo(cb)
Mc1	L	Moderately to strongly calcareous, sandy loam to silty clay loam glacial till.	Mactavish 1	Brunisolic Turbic Cryosol (W, I 8)	Dr-Ca-L, Dr-L-Ca(cb), L-Dr-Ca, Dr-Ca, Dr-Ca-Mo(cb)
				Gleysolic Turbic Cryosol (P 2)	Cx-Mo
Mc2		Less than 1.5 m of moderately to strongly calcareous, sandy loam to silty clay loam glacial till over carbonate bedrock.	Mactavish 2	Brunisolic Turbic Cryosol (W, I 5) Lithic Regosolic Turbic Cryosol (W, I 5)	Dr-Ca-L, Dr-L-Ca(cb), L-Dr-Ca, Dr-Ca, Dr-Ca-Mo(cb)
Mc3		Less than 1.5 m of moderately to strongly calcareous, sandy loam to silty clay loam glacial till over Precambrian bedrock.	Mactavish 3	Brunisolic Turbic Cryosol (W, I 5) Lithic Regosolic Turbic Cryosol (W, I 5)	Dr-Ca-L, Dr-L-Ca(cb), L-Dr-Ca, Dr-Ca, Dr-Ca-Mo(cb)

Table 2 (cont'd)

Map Symbol	Ecoregion	Parent Material	SOIL		Vegetation
			Soil Association	Gen. Name and Drainage	
Pb1	M	Extremely calcareous sandy loam to sandy clay loam glacial till.	Pasley Bay 1	Regosolic Turbic Cryosol (W, I 8)	N, Dr-Ca-L, Dr-L(cb), Dr-Ca-Sx, Dr-Sx(cb), Dr-Mo-Sx, Dr-Mo-Ca, Dr-Mo(cb)
				Gleysolic Turbic Cryosol (P 2)	Cx-Mo
Pb2		Extremely calcareous sandy loam to sandy clay loam glacial till.	Pasley Bay 2	Brunisolic Turbic Cryosol (W, I 5) Regosolic Turbic Cryosol (W, I 3)	N, Dr-Ca-L, Dr-L(cb), Dr-Ca-Sx, Dr-Sx(cb), Dr-Mo-Sx, Dr-Mo-Ca, Dr-Mo(cb)
				Gleysolic Turbic Cryosol (P 2)	Cx-Mo
Pb3		Less than 1.5 m of extremely calcareous sandy clay loam glacial till over limestone bedrock.	Pasley Bay 3	Regosolic Turbic Cryosol (W, I 4) Lithic Regosolic Turbic Cryosol (W, I 4)	N, Dr-Ca-L, Dr-L(cb), Dr-Ca-Sx, Dr-Sx(cb), Dr-Mo-Sx, Dr-Mo-Ca, Dr-Mo(cb)
				Gleysolic Turbic Cryosol (P 2)	Cx-Mo
Pb4		Less than 1.5 m of extremely calcareous sandy loam to sandy clay loam glacial till over limestone bedrock.	Pasley Bay 4	Brunisolic Turbic Cryosol (W, I 4) Lithic Regosolic Turbic Cryosol (W, I 4)	N, Dr-Ca-L, Dr-L(cb), Dr-Ca-Sx, Dr-Sx(cb), Dr-Mo-Sx, Dr-Mo-Ca, Dr-Mo(cb)
				Gleysolic Turbic Cryosol (P 2)	Cx-Mo
Pb5		Less than 1.5 m of very strongly to extremely calcareous sandy loam to sandy clay loam glacial till over Precambrian bedrock.	Pasley Bay 5	Lithic Regosolic Turbic Cryosol (W, I 5) Brunisolic Turbic Cryosol (W, I 3)	N, Dr-Ca-L, Dr-L(cb), Dr-Ca-Sx, Dr-Sx(cb), Dr-Mo-Sx, Dr-Mo-Ca, Dr-Mo(cb)
				Gleysolic Turbic Cryosol (P 2)	Cx-Mo
Pl 1	L	Noncalcareous sand to sandy loam glacial till.	Pelly Bay 1	Brunisolic Turbic Cryosol (W, I)	L-Er, L-Mo Cx-Mo-L, Mo-L-Cx, Mo-Cx-L(cb)
P12		Less than 1.5 m of noncalcareous sand to sandy loam glacial till over Precambrian bedrock.	Pelly Bay 2	Brunisolic Turbic Cryosol (W, I 5) Lithic Brunisolic Turbic Cryosol (W 5)	L-Er, L-Mo Cx-Mo-L, Mo-L-Cx, Mo-Cx-L(cb)
Sg1	M	Moderately to very strongly calcareous, loamy sand to sandy loam glacial till.	Sagvak 1	Regosolic Turbic Cryosol (W, I 8) Brunisolic Turbic Cryosol (W, I 1)	Ncb, Dr-L(cb), Dr-Ca(cb), Dr-Sa(cb) Dr-L-Ca, Dr-Ca-L, Ca-L-Dr
				Gleysolic Turbic Cryosol (P 1)	Dr-L-Mo
Sg2		Less than 1.5 m of moderately to very strongly calcareous, loamy sand to sandy loam glacial till over Precambrian bedrock.	Sagvak 2	Regosolic Turbic Cryosol (W, I 5) Lithic Regosolic Turbic Cryosol (W, I 4)	Ncb, Dr-L(cb), Dr-Ca(cb), Dr-Sa(cb) Dr-L-Ca, Dr-Ca-L, Ca-L-Dr, Dr-L-Mo

Table 3

SOILS AND ASSOCIATED VEGETATION

DEVELOPED ON GLACIOFLUVIAL AND ICE CONTACT SAND AND GRAVEL

Map Symbol	Ecoregion	Parent Material	SOIL		Vegetation
			Soil Association	Gen. Name and Drainage	
Ab1	M	Moderately to strongly calcareous sand and gravel, ice contact and glaciofluvial materials.	Abernethy 1	Brunisolic Static Cryosol (W, I 8) Regosolic Static Cryosol (W, I 2)	Ner, Dr-L, Dr-Cr-L, Dr-Sa-L, Cr-Dr, Sa-Mo
Ab2		Less than 1.5 m of moderately to strongly calcareous sand and gravel, ice contact and glaciofluvial materials over Precambrian bedrock.	Abernethy 2	Brunisolic Static Cryosol (W, I 6) Lithic Brunisolic Static Cryosol (W 4)	Ner, Dr-L, Dr-Cr-L, Dr-Sa-L, Cr-Dr, Sa-Mo
Ab3		Less than 1.5 m of moderately to strongly calcareous sand and gravel, ice contact materials over glacial till.	Abernethy 3	Brunisolic Static Cryosol (W, I 8) Regosolic Static Cryosol (W, I 2)	Ner, Dr-L, Dr-Cr-L, Dr-Sa-L, Cr-Dr, Sa-Mo
Ka1	M	Weakly calcareous sand and gravel ice contact and glaciofluvial materials.	Kugaluktok 1	Brunisolic Static Cryosol (W, I)	Ner, L-Dr, Dr-L-Cs, Dr-L-Cr, Cr-Dr-L, Dr-Cr, Dr-Sa, Cx-Mo
Ka2		Less than 1.5 m of weakly calcareous sand and gravel ice contact and glaciofluvial materials over Precambrian bedrock.	Kugaluktok 2	Brunisolic Static Cryosol (W, I 5) Lithic Brunisolic Static Cryosol (W, I 5)	Ner, L-Dr, Dr-L-Cs, Dr-L-Cr, Cr-Dr-L, Dr-Cr, Dr-Sa, Cx-Mo
Po1	M	Strongly to extremely calcareous sand and gravel ice contact and glaciofluvial materials.	Port Logan 1	Brunisolic Static Cryosol (W, I 8) Regosolic Static Cryosol (W, I 2)	N, Dr-Cr-L, Dr-L, Cr-Sx, Cr-Mo-Dr
Po2		Less than 1.5 m of strongly to extremely calcareous sand and gravel ice contact and glaciofluvial materials over limestone bedrock.	Port Logan 2	Brunisolic Static Cryosol (W, I 5) Lithic Regosolic Turbic Cryosol (W, I 5)	N, Dr-Cr-L, Dr-L, Cr-Sx, Cr-Mo-Dr
Po3		Less than 1.5 m of strongly to extremely calcareous sand and gravel ice contact and glaciofluvial materials over glacial till.	Port Logan 3	Brunisolic Static Cryosol (W, I 8) Regosolic Static Cryosol (W, I 2)	N, Dr-Cr-L, Dr-L, Cr-Sx, Cr-Mo-Dr
Po4		Less than 1.5 m of strongly to extremely calcareous sand and gravel ice contact and glaciofluvial materials over Precambrian bedrock.	Port Logan 4	Brunisolic Static Cryosol (W, I 5) Lithic Regosolic Static Cryosol (W, I 5)	N, Dr-Cr-L, Dr-L, Cr-Sx, Cr-Mo-Dr
Sm1	L	Noncalcareous sand and gravel ice contact and glaciofluvial materials.	Simpson Lake 1	Brunisolic Static Cryosol (W)	L-Er, L-Mo, Ner
Sm2		Less than 1.5 m of noncalcareous sand and gravel ice contact and glaciofluvial materials over Precambrian bedrock.	Simpson Lake 2	Brunisolic Static Cryosol (W 5) Lithic Brunisolic Static Cryosol (W 5)	L-Er, L-Mo, Ner

Table 4

SOILS AND ASSOCIATED VEGETATION DEVELOPED
ON MARINE SAND AND GRAVEL

Map Symbol	Ecoregion	Parent Material	SOIL		Vegetation
			Soil Association	Gen. Name and Drainage	
An1	M	Strongly to extremely calcareous marine sand.	Angmaluktok 1	Regosolic Static Cryosol (W, I 6) Brunisolic Static Cryosol (W, I 4)	N, Dr-Ca-L, Dr-L, Cr-Mo-Dr
An2		Less than 1.5 m strongly to extremely calcareous marine sand over glacial till.	Angmaluktok 2	Regosolic Static Cryosol (W, I 6) Brunisolic Static Cryosol (W, I 4)	N, Dr-Ca-L, Dr-L, Cr-Mo-Dr
Be1	L	Noncalcareous marine gravel.	Becher River 1	Brunisolic Static Cryosol (W)	L-Er, L-Mo, Ner
Be2		Less than 1.5 m of noncalcareous marine gravel over Precambrian bedrock.	Becher River 2	Brunisolic Static Cryosol (W 5) Lithic Brunisolic Static Cryosol (W 5)	L-Er, L-Mo, Ner
Be3		Less than 1.5 m of noncalcareous marine sand over glacial till.	Becher River 3	Brunisolic Static Cryosol (W)	L-Er, L-Mo, Ner
Cb1	M	Weakly to strongly calcareous marine sand and gravel.	Cape Barclay 1	Brunisolic Static Cryosol (W, I 8) Regosolic Static Cryosol (W, I 2)	Ner, L-Cr-Dr, L-Dr, Dr-L-Cr, Dr-Cr
Cb2		Less than 1.5 m of weakly to strongly calcareous marine sand and gravel over carbonate bedrock.	Cape Barclay 2	Brunisolic Static Cryosol (W, I 4) Regosolic Turbic Cryosol (W, I 4) Lithic Regosolic Turbic Cryosol (W, I 2)	Ner cb, L-Cr-Dr, L-Dr, Dr-L-Cr, Dr-Cr
Cb3		Less than 1.5 m of weakly to strongly calcareous marine sand and gravel over calcareous till.	Cape Barclay 3	Brunisolic Static Cryosol (W, I 7) Regosolic Static Cryosol (W, I 2) Regosolic Turbic Cryosol (W, I 1)	Ner cb, L-Cr-Dr, L-Dr, Dr-L-Cr, Dr-Cr
Eh1	L	Less than 1.5 m of weakly to moderately calcareous marine sand and gravel over carbonate bedrock.	Ellice Hills 1	Brunisolic Static Cryosol (W, I 4) Regosolic Turbic Cryosol (W, I 3) Lithic Regosolic Turbic Cryosol (W, I 3)	Ner cb, L-Cr-Dr, L-Dr, Dr-L-Cr, Dr-Cr
Ke1	L	Noncalcareous marine sand.	Kellet River 1	Brunisolic Static Cryosol (W 8)	L-Er, Cr-Mo-Dr, Mo-L
				Regosolic Static Cryosol (W 2)	Ner
Ke2		Less than 1.5 m of noncalcareous marine sand over marine clay.	Kellet River 2	Brunisolic Static Cryosol (W)	L-Er, Cr-Mo-Dr, Mo-L
Ke3		Less than 1.5 m of noncalcareous marine sand over Precambrian bedrock.	Kellet River 3	Brunisolic Static Cryosol (W 5) Lithic Brunisolic Static Cryosol (W 5)	Ner, L-Er, Cr-Mo-Dr, Mo-L

Table 4 (cont'd)

Map Symbol	Ecoregion	Parent Material	S O I L		Vegetation
			Soil Association	Gen. Name and Drainage	
Ke4	L	Less than 1.5 m of non-calcareous marine sand over glacial till.	Kellet River 4	Brunisolic Static Cryosol (W 8)	L-Er, Cr-Mo-Dr, Mo-L
				Regosolic Static Cryosol (W 2)	Ner
Ke5		Less than 1.5 m of noncal-careous marine sand over carbonate bedrock.	Kellet River 5	Brunisolic Static Cryosol (W 5) Lithic Brunisolic Static Cryosol (W 5)	Ner, L-Er, Cr-Mo-Dr, Mo-L
Nd1	M	Moderately to strongly cal-careous marine sand and gravel.	Nudlukta 1	Brunisolic Static Cryosol (W, I 8) Regosolic Static Cryosol (W, I 2)	N, Dr-L, Dr-Cr-L, Dr-Sa-L, Cr-Dr, Sa-Mo
Nd2		Less than 1.5 m of moder-ately to strongly cal-careous marine sand and gravel over Precambrian bedrock.	Nudlukta 2	Brunisolic Static Cryosol (W, I 4) Lithic Regosolic Static Cryosol (W, I 3) Lithic Brunisolic Static Cryosol (W, I 3)	N, Dr-L, Dr-Cr-L, Dr-Sa-L, Cr-Dr, Sa-Mo
Nd3		Less than 1.5 m of moder-ately to strongly calcar-eous marine sand and gravel over glacial till.	Nudlukta 3	Brunisolic Static Cryosol (W, I 8) Regosolic Static Cryosol (W, I 2)	N, Dr-L, Dr-Cr-L, Dr-Sa-L, Cr-Dr, Sa-Mo
Ro1	M	Weakly to noncalcareous marine sand.	Ross Hills 1	Brunisolic Static Cryosol (W 8)	Dr-L-Ca, L-Dr-Ca, L-Cs, Dr-L
				Gleysolic Static Cryosol (P 2)	Cx-Mo
Ro2		Less than 1.5 m of weakly to noncalcareous marine sand over glacial till.	Ross Hills 2	Brunisolic Static Cryosol (W 8)	Dr-L-Ca, L-Dr-Ca, L-Cs, Dr-L
				Gleysolic Static Cryosol (P 2)	Cx-Mo
Ro3		Less than 1.5 m of weakly to noncalcareous marine sand over marine clay.	Ross Hills 3	Brunisolic Static Cryosol (W 8)	Dr-L-Ca, L-Dr-Ca, L-Cs, Dr-L
				Gleysolic Static Cryosol (P 2)	Cx-Mo
Sl 1	M	Strongly to extremely cal-careous marine gravel.	Stilwell Bay 1	Regosolic Static Cryosol (W, I)	N, Dr-Ca-L, Dr-L, Cr-Mo-Dr
Sl 2		Less than 1.5 m of strongly to extremely calcareous marine gravel over limestone bedrock.	Stilwell Bay 2	Regosolic Static Cryosol (W, I 5) Lithic Regosolic Turbic Cryosol (W, I 5)	N, Dr-Ca-L, Dr-L, Cr-Mo-Dr
Sl 3		Less than 1.5 m of strongly to extremely calcareous marine gravel over Precambrian bedrock.	Stilwell Bay 3	Regosolic Static Cryosol (W, I 5) Lithic Regosolic Static Cryosol (W, I 5)	N, Dr-Ca-L, Dr-L, Cr-Mo-Dr
Sl 4		Less than 1.5 m of strongly to extremely calcareous marine gravel over glacial till.	Stilwell Bay 4	Regosolic Static Cryosol (W, I)	N, Dr-Ca-L, Dr-L, Cr-Mo-Dr
Tb1	M	Weakly to moderately cal-careous marine sand and gravel.	Thom Bay 1	Brunisolic Static Cryosol (W, I 6) Regosolic Static Cryosol (W, I 4)	Ner, L-Dr, Dr-L-Cr, Cr-Dr-L, Dr-Cr, Dr-Sa, Cx-Mo-Dr, Cx-Mo
Tb2		Less than 1.5 m of weakly to moderately calcareous marine sand and gravel over Precambrian bedrock.	Thom Bay 2	Brunisolic Static Cryosol (W, I 4) Lithic Brunisolic Static Cryosol (W, I 3) Regosolic Static Cryosol (W, I 3)	Ner, L-Dr, Dr-L-Cr, Cr-Dr-L, Dr-Cr, Dr-Sa, Cx-Mo-Dr, Cx-Mo
Tb3		Less than 1.5 m of weakly to moderately calcareous marine sand and gravel over glacial till.	Thom Bay 3	Brunisolic Static Cryosol (W, I 6) Regosolic Static Cryosol (W, I 4)	Ner, L-Dr, Dr-L-Cr, Cr-Dr-L, Dr-Cr, Dr-Sa Cx-Mo-Dr, Cx-Mo

Table 5

SOILS AND ASSOCIATED VEGETATION DEVELOPED
ON MARINE SILT AND CLAY

Map Symbol	Ecoregion	Parent Material	SOIL		Vegetation
			Soil Association	Gen. Name and Drainage	
Ar1	L	Noncalcareous to weakly calcareous silty clay to clay marine deposit.	Arrowsmith River 1	Brunisolic Turbic Cryosol (I 7)	Ner, Et-Mo-L, Mo-L-Eo, Mo-Cx
				Gleysolic Turbic Cryosol (P 3)	Et
Ar2		Noncalcareous to weakly calcareous silty clay to clay marine deposit.	Arrowsmith River 2	Regosolic Static Cryosol (W)	Ner
Ar3		Less than 1.5 m of noncalcareous to weakly calcareous silty clay to clay marine deposit over Precambrian bedrock.	Arrowsmith River 3	Brunisolic Turbic Cryosol (W, I 5) Lithic Brunisolic Turbic Cryosol (W, I 5)	Ner, Et-Mo-L, Mo-L-Eo, Mo-Cx Et
Ar4		Less than 1.5 m of noncalcareous to weakly calcareous silty clay to clay marine deposit over glacial till.	Arrowsmith River 4	Brunisolic Turbic Cryosol (I 7)	Ner, Et-Mo-L, Mo-L-Eo, Mo-Cx
				Gleysolic Turbic Cryosol (P 3)	Et
Bb1	M	Strongly to very strongly calcareous silt loam to silty clay marine deposit.	Babbage Bay 1	Brunisolic Turbic Cryosol (W, I 8)	L-Dr-Ca, Dr-Ca-L, Ca-Mo-L
				Gleysolic Turbic Cryosol (P 2)	Cx-Mo
Bb2		Less than 1.5 m of strongly to very strongly calcareous silt loam to silty clay marine deposit over limestone bedrock.	Babbage Bay 2	Brunisolic Turbic Cryosol (W, I 4) Lithic Brunisolic Turbic Cryosol (W, I 4)	L-Dr-Ca, Dr-Ca-L, Ca-Mo-L
				Gleysolic Turbic Cryosol (P 2)	Cx-Mo
Bb3		Less than 1.5 m of strongly to very strongly calcareous silt loam to silty clay marine deposit over glacial till.	Babbage Bay 3	Brunisolic Turbic Cryosol (W, I 8)	L-Dr-Ca, Dr-Ca-L, Ca-Mo-L
				Gleysolic Turbic Cryosol (P 2)	Cx-Mo
Lg1	M	Moderately to strongly calcareous, silt loam to silty clay marine deposit.	Login Bay 1	Brunisolic Turbic Cryosol (W, I 8)	L-Dr-Ca, Dr-Ca-L, Ca-Mo-L
				Gleysolic Turbic Cryosol (P 2)	Cx-Mo
Lg2		Less than 1.5 m of moderately to strongly calcareous silt loam to silty clay marine deposit over carbonate bedrock.	Login Bay 2	Brunisolic Turbic Cryosol (W, I 5) Lithic Brunisolic Turbic Cryosol (W, I 5)	L-Dr-Ca, Dr-Ca-L, Ca-Mo-L
Lg3		Moderately to strongly calcareous silt loam to silty clay marine deposit.	Login Bay 3	Regosolic Turbic Cryosol (W, I 8)	Ner, Ca-Mo-L
				Gleysolic Turbic Cryosol (P 2)	Cx-Mo
Mj1	M	Moderately calcareous, silt loam to silty clay marine deposit.	Mary Jones 1	Brunisolic Turbic Cryosol (W, I 7)	Dr-L, Ca-L, Ca-Dr
				Gleysolic Turbic Cryosol (P 3)	Dr-Mo, Cx-Mo
Mj2		Less than 1.5 m of moderately calcareous, silt loam to silty clay marine deposit over Precambrian bedrock.	Mary Jones 2	Brunisolic Turbic Cryosol (W, I 5) Lithic Brunisolic Turbic Cryosol (W, I 3)	Dr-L, Ca-L, Ca-Dr
				Gleysolic Turbic Cryosol (P 2)	Dr-Mo, Cx-Mo
Mj3		Less than 1.5 m of moderately calcareous, silt loam to silty clay marine deposit over glacial till.	Mary Jones 3	Brunisolic Turbic Cryosol (W, I 7)	Dr-L, Ca-L, Ca-Dr
				Gleysolic Turbic Cryosol (P 3)	Dr-Mo, Cx-Mo
Ne1	M	Weakly calcareous silty clay to clay marine deposit.	Netsilik 1	Brunisolic Turbic Cryosol (I 5)	L-Dr-Ca, Dr-Ca-L, Ca-Mo-L
				Gleysolic Turbic Cryosol (P 5)	Cx-Mo, Mo-Cx
Ne2		Less than 1.5 m of weakly calcareous silty clay to clay marine deposit over glacial till.	Netsilik 2	Brunisolic Turbic Cryosol (I 5)	L-Dr-Ca, Dr-Ca-L, Ca-Mo-L
				Gleysolic Turbic Cryosol (P 5)	Cx-Mo, Mo-Cx

Table 6

SOILS AND ASSOCIATED VEGETATION DEVELOPED ON ALLUVIUM

Map Symbol	Ecoregion	Parent Material	S O I L		Vegetation
			Soil Association	Gen. Name and Drainage	
Bl 1	M	Weakly to moderately calcareous sandy alluvium.	Ballenden 1	Regosolic Static Cryosol (W, I)	
Cal	M	Strongly calcareous sand and gravel alluvium.	Cape Airy 1	Regosolic Static Cryosol (W, I 6) Brunisolic Static Cryosol (W, I 4)	N, Dr-Cr-L, Dr-L, Cr-Sx, Cr-Mo-Dr
Ca2		Strongly calcareous recent sand and gravel alluvium.	Cape Airy 2	Regosolic Static Cryosol (I)	N
Sp1	L	Weakly calcareous to noncalcareous recent sandy alluvium.	Stael Point 1	Regosolic Static Cryosol (P)	N
Sp2		Weakly calcareous to noncalcareous sandy alluvium.	Stael Point 2	Regosolic Static Cryosol (W, I 6) Brunisolic Static Cryosol (W, I 4)	L-Er, Ca-Mo-Dr, Mo-L
Sp3		Less than 1.5 m of weakly calcareous to noncalcareous sandy alluvium over marine clay.	Stael Point 3	Regosolic Static Cryosol (W, I 6) Brunisolic Static Cryosol (W, I 4)	L-Er, Ca-Mo-Dr, Mo-L
Sp4		Less than 1.5 m of weakly calcareous to noncalcareous sandy alluvium over Precambrian bedrock.	Stael Point 4	Brunisolic Static Cryosol (W, I 5) Lithic Brunisolic Cryosol (W, I 5)	L-Er, Ca-Mo-Dr, Mo-L
Sa1	M	Moderately calcareous sand and gravel alluvium.	Sanagak 1	Brunisolic Static Cryosol (W, I 5) Brunisolic Turbic Cryosol (W, I 3)	Ner, Dr-Cr, Dr-Cr-Mo
				Gleysolic Turbic Cryosol (P 2)	Cx-Mo
Sa2		Moderately calcareous recent sand and gravel alluvium.	Sanagak 2	Regosolic Static Cryosol (W, I 8)	N, Dr-Cr, Dr-Cr-Mo
				Gleysolic Turbic Cryosol (P 2)	Cx-Mo

Table 7

SOILS AND ASSOCIATED VEGETATION
DEVELOPED ON EOLIAN SAND

Map Symbol	Ecoregion	Parent Material	S O I L		Vegetation
			Soil Association	Gen. Name and Drainage	
Ln2	M	Moderately to strongly calcareous eolian sand over sand and gravel ice contact material.	Lindsay 2	Regosolic Static Cryosol (W, I)	N
Ln3		Less than 1.5 m of moderately to strongly calcareous eolian sand over Precambrian bedrock.	Lindsay 3	Regosolic Static Cryosol (W, I)	N

Table 8

BEDROCK MATERIALS

Map Symbol	Ecoregion	Parent Material	SOIL		Vegetation
			Soil Association	Gen. Name and Drainage	
Cr	M	Rocks consisting primarily of carbonate minerals, such as limestone or dolomite.	Carbonate bedrock	-----	N
Pc	M	Coarse-grained igneous or metamorphic rock containing quartz as an essential component, along with feldspar and mafic minerals; mainly refers to granite and granite gneiss.	Precambrian granitic bedrock	-----	N

Table 9

TERRAIN SENSITIVITY RATINGS

Map Symbol	Terrain Sensitivity	Disturbance Level	Reaction Type	Comments
		GLACIAL TILL SOILS		
Am 1	4	c	S, M	Medium to low ice content, very active cryoturbation, downslope movement occurs on steep slopes.
Am 2	3	c	G, M	
Am 3	3	c	G, M	
Kg 1	4	c	S, M	Medium to low ice content, active cryoturbation, unstable terrain where there is a high concentration of circles present.
Kg 2	4	c	S, M	
Kg 3	3	c	G	
Mc 1	3	c	G, S	Medium to low ice content, active cryoturbation.
Mc 2	2	c	G	
Mc 3	2	c	G	
Pb 1	4	c	G, S	Medium to low ice content, active cryoturbation, unstable terrain where there is a high concentration of circles present.
Pb 2	4	c	G, S	
Pb 3	3	c	G	
Pb 4	3	c	G	
Pb 5	3	c	G	
Pl 1	3	d	G, S	
Pl 2	3	d	G	
	GLACIOFLUVIAL AND ICE CONTACT SAND AND GRAVELLY SOILS			
Ab 1	3,5	d	G, S	Low ice content except in areas associated with ice wedge polygons; these areas are rated sensitivity 5 in units Ab1, Ab3, Ka1, Po1, Po3 and Sm1.
Ab 2	2	d	G	
Ab 3	3,5	d	G, S	
Ka 1	3,5	d	G, S	
Ka 2	2	d	G	
Po 1	3,5	d	G, S	
Po 2	2	d	G	
Po 3	3,5	d	G, S	
Po 4	2	d	G	
Sm 1	3,5	d	G, S	
Sm 2	1	d	G	
		MARINE SAND AND GRAVELLY SOILS		
An 1	3,5	d	G, S	Low ice content except areas associated with ice wedge polygons which have high ice content. These areas are rated sensitivity 4 in units Sl 1 and Sl 4; sensitivity 5 in units An1, An2, Be1, Be2, Cb1, Cb3, Eh1, Nd1, Nd3, Ro1, Ro2, Tb1 and Tb3; sensitivity 6 in units Ke4 and Ro3; and sensitivity 7 in unit Ke2.
An 2	3,5	d	G, S	
Be 1	2,5	d	G, S	
Be 2	1	d	G	
Be 3	2,5	d	G, S	
Cb 1	3,5	d	G, S	
Cb 2	2	d	G	
Cb 3	3,5	d	G, S	
Eh 1	3,5	d	G, S	
Ke 1	3,6	d	G, S	
Ke 2	4,7	d	G, S	
Ke 3	3	d	G	
Ke 4	3,6	d	G, S	
Ke 5	3	d	G	
Nd 1	3,5	d	G, S	
Nd 2	2	d	G	
Nd 3	3,5	d	G, S	

Table 9 (cont'd)

Map Symbol	Terrain Sensitivity	Disturbance Level	Reaction Type	Comments
Ro 1	3,5	d	G, S	
Ro 2	3,5	d	G, S	
Ro 3	4,6	d	G, S	
Sl 1	2,4	d	G, S	
Sl 2	2	d	G	
Sl 3	1	d	G	
Sl 4	2,4	d	G, S	
Tb 1	3,5	d	G, S	
Tb 2	3	d	G	
Tb 3	3,5	d	G, S	
		MARINE SILT AND CLAY SOILS		
Ar 1	7	a	S, F	High ice content, massive ground ice in near surface permafrost. All earth hummocky terrain, especially in ecoregion L, is associated with ground ice 0.5 cm or more thick in near surface permafrost.
Ar 2	3	c	G, S	
Ar 3	4	c	G, S	
Ar 4	6	b	S, F	
Bb 1	5	b	S, F	
Bb 2	3	c	G, S	
Bb 3	4	b	S, F	
Lg 1	5	b	S, F	
Lg 2	3	c	G, S	
Lg 3	3	c	G, S	
Mj 1	5	b	S, F	
Mj 2	3	c	G, S	
Mj 3	4	c	G, S	
Ne 1	6	a	S, F	
Ne 2	4	c	G, S, F	
		ALLUVIAL SOILS		
Bl 1	4,5	d	G, S	Medium ice content except areas associated with ice wedge polygons which have high ice content. These areas are rated sensitivity 5 in units Bl 1, Cal, Sp2 and Sal.
Ca 1	3,5	d	G, S	
Ca 2	3	d	G	
Sp 1	4	d	G	
Sp 2	4,5	c	G, S	
Sp 3	6	d	S, T	
Sp 4	3	d	G	
Sa 1	4,5	d	G, S	
Sa 2	4	d	G	
		EOLIAN SANDY SOILS		
Ln 2	2	d	G	Low ice content, unvegetated sand.
Ln 3	1	d	G	
		BEDROCK		
Cr	2	d	-	Subject to frost-heaving and mass wasting.
Pc	2	d	-	Subject to frost-heaving, especially in ecoregion M, where blocks of $10m^3$ size or more are heaved up to 0.5 m or more.

Disturbance Level: The disturbance necessary in order to obtain the maximum reaction to disturbance at the sensitivity level indicated. More severe disturbance should not increase the degree of reaction of the terrain, whereas less severe disturbance should evoke less than maximum terrain response. The rating used here increases from a to d and they are: a - disruption of the surface of mineral soil or organic mat if it is present, b - removal of the surface of mineral soil or organic mat if it is present, c - disruption of mineral soil to the permafrost table, d - excavation of unfrozen and perennially frozen mineral soil.

Type of Reaction: The type of failure that occurs when the terrain is disturbed. Five broad categories are included, with the most common types indicated for each soil unit. These categories are: T - thermokarst, G - gully erosion, M - downslope movement, S - active layer detachment slide, and F - retrogressive thaw flow slide.

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