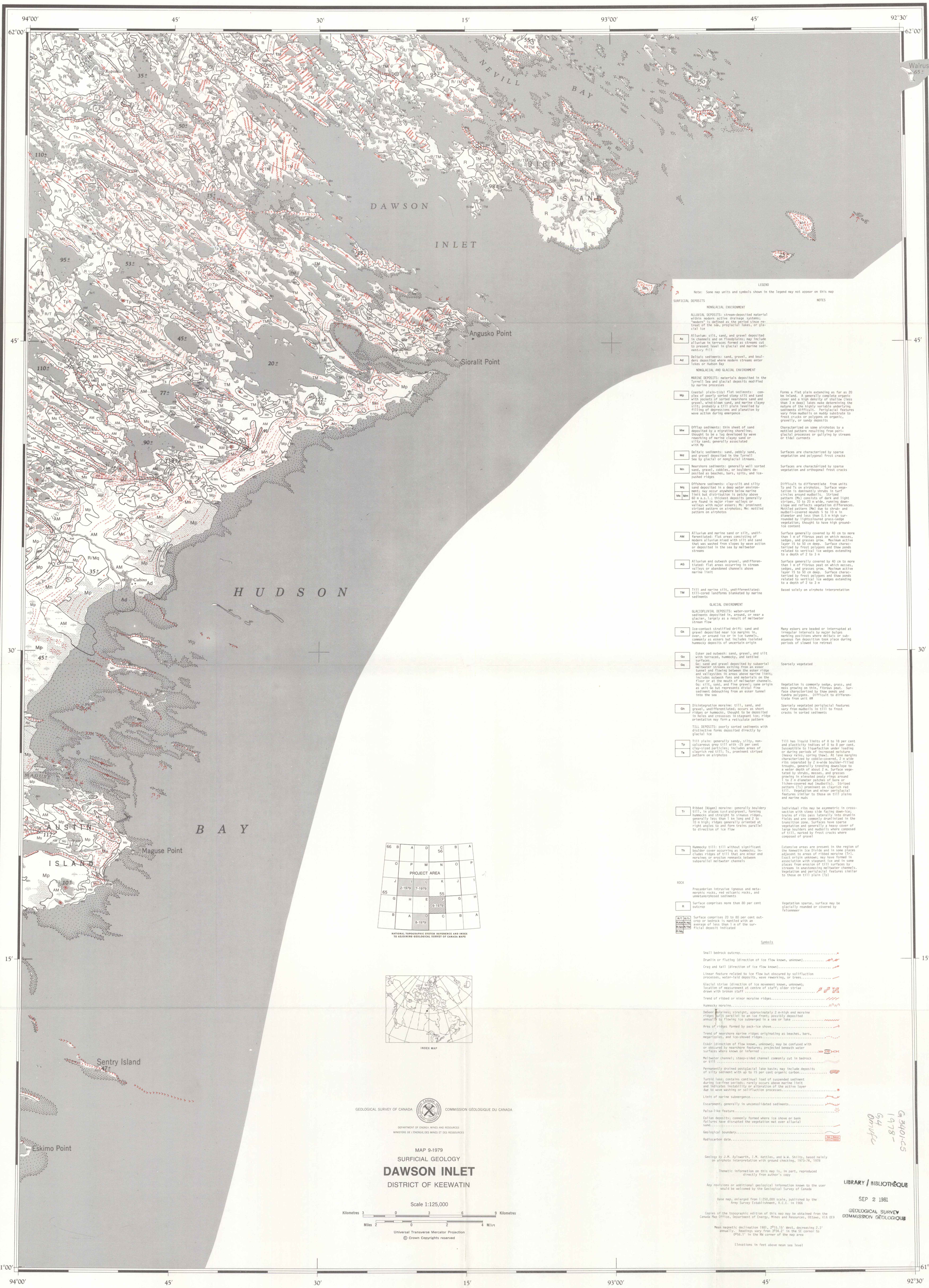

LEGEND

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

SURFICIAL DEPOSITS		NOTES
	NONGLACIAL ENVIRONMENT	
	ALLUVIAL DEPOSITS: stream-deposited material within modern active drainage systems; "modern" is defined as the period since retreat of the sea, proglacial lakes, or glacial ice	
Ac	Alluvium: silt, sand, and gravel deposited in channels and on floodplains; may include alluvium in terraces formed as streams cut to present level in glacial and marine sedimentary fill	
Ad	Deltaic sediments: sand, gravel, and boulders deposited where modern streams enter lakes or Hudson Bay	
	NONGLACIAL AND GLACIAL ENVIRONMENT	
	MARINE DEPOSITS: materials deposited in the Tyrrell Sea and glacial deposits modified by marine processes	
Mp	Coastal plain-tidal flat sediments: complex of poorly sorted stony silt and sand with pockets of sorted nearshore sand and gravel, wind-blown sand, and marine clayey silt; probably a till plain levelled by filling of depressions and planation by wave action during emergence	Forms a flat plain extending as far as 20 km inland. A generally complete organic cover and a high density of shallow (less than 3 m deep) lakes make determining the nature of the highly variable underlying sediments difficult. Periglacial features vary from mudboils on muddy substrate to frost cracks or polygons on organic, gravelly, or sandy deposits
Mw	Offlap sediments: thin sheet of sand deposited by a migrating shoreline; thought to be a lag developed by wave reworking of marine clayey sand or silty sand; generally associated with Mp	Characterized on some airphotos by a mottled pattern resulting from periglacial processes or gullying by streams or tidal currents
Md	Deltaic sediments: sand, pebbly sand, and gravel deposited in the Tyrrell Sea by glacial or nonglacial streams.	Surfaces are characterized by sparse vegetation and polygonal frost cracks
Mn	Nearshore sediments: generally well sorted sand, gravel, cobbles, or boulders deposited as beaches, bars, spits, and ice-pushed ridges	Surfaces are characterized by sparse vegetation and orthogonal frost cracks
Mq; Ms, Mm	Offshore sediments: clay-silt and silty sand deposited in a deep water environment; may occur anywhere below marine limit but distribution is patchy above 60 m a.s.l.; thickest deposits generally are found in major river valleys or valleys with major eskers; Ms: prominent striped pattern on airphotos; Mm: mottled pattern on airphotos	Difficult to differentiate from units Tp and Ts on airphotos. Surface vegetation is dominantly shrubs in turf circles around mudboils. Striped pattern (Ms) consists of dark and light stripes, 10 to 20 m wide, running downslope and reflects vegetation differences. Mottled pattern (Mm) due to shrub- and mudboil-covered mounds 5 to 10 m in diameter and less than 0.5 m high surrounded by lightcoloured grass-sedge vegetation; thought to have high ground-ice content
AM	Alluvium and marine sand or silt, undifferentiated: flat areas consisting of modern alluvium mixed with silt and sand that was washed from slopes by wave action or deposited in the sea by meltwater streams	Surface generally covered by 40 cm to more than 1 m of fibrous peat on which mosses, sedges, and grasses grow. Maximum active layer 15 to 50 cm deep. Surface characterized by frost polygons and thaw ponds related to vertical ice wedges extending to a depth of 2 to 3 m
AG	Alluvium and outwash gravel, undifferentiated: flat areas occurring in stream valleys or abandoned channels above marine limit	Surface generally covered by 40 cm to more than 1 m of fibrous peat on which mosses, sedges, and grasses grow. Maximum active layer 15 to 50 cm deep. Surface characterized by frost polygons and thaw ponds related to vertical ice wedges extending to a depth of 2 to 3 m
TM	Till and marine silt, undifferentiated: till-cored landforms blanketed by marine sediments	Based solely on airphoto interpretation
	GLACIAL ENVIRONMENT	
	GLACIOFLUVIAL DEPOSITS: water-sorted sediments deposited in, around, or near a glacier, largely as a result of meltwater stream flow	
Gk	Ice-contact stratified drift: sand and gravel deposited near ice margins in, over, or around ice or in ice tunnels, commonly as eskers but includes isolated hummocky deposits of uncertain origin	Many eskers are beaded or interrupted at irregular intervals by major bulges marking positions where deltaic or subaqueous fan deposition took place during periods of slowed ice retreat
Go, Gq	Esker pad outwash: sand, gravel, and silt with terraced, hummocky, and kettled surfaces. Go: sand and gravel deposited by subaerial meltwater streams exiting from an esker tunnel and flowing between the esker ridge and valleysides in areas above marine limit; includes outwash fans and materials on the floor or at the mouth of meltwater channels. Gq: silt, sand, and fine gravel; same origin as unit Go but represents distal fine sediment debouching from an esker tunnel into the sea	Sparsely vegetated. Vegetation is commonly sedge, grass, and moss growing on thin, fibrous peat. Surface characterized by thaw ponds and tundra polygons. Difficult to differentiate from unit AM
Gh	Disintegration moraine: till, sand, and gravel, undifferentiated; occurs as short ridges or hummocks, thought to be deposited in holes and crevasses in stagnant ice; ridge orientation may form a reticulate pattern	Sparsely vegetated periglacial features vary from mudboils in till to frost cracks in sorted sediments
	TILL DEPOSITS: poorly sorted sediments with distinctive forms deposited directly by glacial ice	
Tp, Ts	Till plain: generally sandy, silty, noncalcareous grey till with <25 per cent clay-sized particles; includes areas of clayrich red till; Ts, prominent striped pattern on airphotos	Till has liquid limits of 8 to 18 per cent and plasticity indices of 0 to 8 per cent. Susceptible to liquefaction under loading or during periods of increased moisture (heavy rains, spring thaw). At lake margins characterized by cobble-covered, 2 m wide ribs separated by 2 m-wide boulder-filled troughs, generally trending downslope to a water depth of about 2 m. Surface vegetated by shrubs, mosses, and grasses growing in elevated peaty rings around 1 to 2 m diameter patches of bare or lichen-covered mud (mudboils). Striped pattern (Ts) prominent on clayrich red till. Vegetation and minor periglacial features similar to those on till plains and marine muds
Tr	Ribbed (Rögen) moraine: generally bouldery till, in places sand and gravel, forming hummocks and straight to sinuous ridges, generally less than 1 km long and 2 to 10 m high; ridges generally oriented at right angles to and form trains parallel to direction of ice flow	Individual ribs may be asymmetric in cross-section with steep side facing down-ice; trains of ribs pass laterally into drumlin fields and are commonly drumlinized in the transition zone. Surfaces have sparse vegetation and generally a heavy cover of large boulders and mudboils where composed of till, marked by frost cracks where composed of gravel
Th	Hummocky till: till without significant boulder cover occurring as hummocks; includes ridges of till that are minor end moraines or erosion remnants between subparallel meltwater channels	Extensive areas are present in the region of the Keewatin Ice Divide and in some places adjacent to areas of ribbed moraine (Tr). Exact origin unknown; may have formed in association with stagnant ice and in some places from erosion of till surfaces by streams in anastomosing meltwater channels. Vegetation and periglacial features similar to those on till plain (Tp)
ROCK		
	Precambrian intrusive igneous and metamorphic rocks, red volcanic rocks, and unmetamorphosed sediments	
R	Surface comprises more than 80 per cent outcrop	Vegetation sparse, surface may be glacially rounded or covered by felsenmeer
R/T, R/Tr, R/AM, R/AG, R/Mn, R/TM, R/Mq	Surface comprises 20 to 80 per cent outcrop or bedrock is mantled with an average of less than 1 m of the surficial deposit indicated	

Symbols

Small bedrock outcrop
Drumlin or fluting (direction of ice flow known, unknown)
Crag and tail (direction of ice flow known)
Linear feature related to ice flow but obscured by solifluction processes, water-laid deposits, wave reworking, or trees
Glacial striae (direction of ice movement known, unknown); location of measurement at centre of staff; older striae drawn with broken staff
Trend of ribbed or minor moraine ridges
Hummocky moraine
DeGeer moraines; straight, approximately 2 m-high end moraine ridges built parallel to an ice front; possibly deposited annually by flowing ice submerged in a sea or lake
Area of ridges formed by pack-ice shove
Trend of nearshore marine ridges originating as beaches, bars, megaripples, and ice-shoved ridges
Esker (direction of flow known, unknown); may be confused with or obscured by nearshore features; projected beneath water surfaces where known or inferred
Meltwater channel; steep-sided channel commonly cut in bedrock or till
Permanently drained postglacial lake basin; may include deposits of silty sediment with up to 15 per cent organic carbon
Turbid lake; contains continual load of suspended sediment during ice-free periods; rarely occurs above marine limit and indicates instability or alteration of the active layer due to wave washing or solifluction processes
Limit of marine submergence
Escarpment; generally in unconsolidated sediments
Palsa-like feature
Eolian deposits; commonly formed where ice shove or bank failures have disrupted the vegetation mat over alluvial sand
Geological boundary
Radiocarbon date (Date, Material, Lab no., Elevation)

Geology by J.M. Aylsworth, I.M. Kettles, and W.W. Shilts, based mainly on airphoto interpretation with ground checking, 1973-74, 1978

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Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada

Base map, enlarged from 1:250,000 scale, published by the Army Survey Establishment, R.C.E. in 1966

Copies of the topographic edition of this map may be obtained from the Canada Map Office, Department of Energy, Mines and Resources, Ottawa, K1A 0E9

Mean magnetic declination 1981, 2°15.15' West, decreasing 2.3' annually. Readings vary from 3°34.2' in the SE corner to 0°56.1' in the NW corner of the map area

Elevations in feet above mean sea level

GEOLOGICAL SURVEY OF CANADA — COMMISSION GÉOLOGIQUE DU CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES
MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES RESSOURCES

MAP 9-1979
SURFICIAL GEOLOGY

DAWSON INLET

DISTRICT OF KEEWATIN

Scale 1:125,000

Kilometres 3 0 3 6 9 Kilometres
Miles 2 0 2 4 Miles

Universal Transverse Mercator Projection

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