



GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES

LEGEND

UNIT NAME	MATERIAL	THICKNESS	TOPOGRAPHY	RELIEF	CLASSIFICATION	
8	Bog deposits	Spaghnum bog, marsh, containing peat, underlain in places by muck, organic and inorganic lacustrine sediments, marl, diatomite	To 30 feet	Flat, to slightly domed	Nil to 5 feet	Organic
7	Alluvium	Fine sand, fine and coarse gravel; silt; with organic matter	To 10 feet	Flat, to gently sloping; some abandoned channels; river terraces	Small	Fluvial
6	Marine shore deposits	Well-sorted fine and medium sand; fine gravel; some rounded boulders	Generally <10 feet; some to 25 feet	Flat, to gently undulating	Small	Marine
5/4	Wave-modified outwash fan or delta	Cobble gravel, coarse, medium, and fine gravel, sand; sediments grade seaward to marine basin sediments (5)	Generally >40 feet to places >100 feet	Gently sloping to flat fans and plains; some abandoned channels. Most kettles filled or partly filled with sand and gravel	Elevated plain, local relief to 20 feet, a few kettles 30-40 feet deep	
5/3	Wave-modified ice-contact deposits	Mainly boulder gravel, coarse, medium and fine gravel, sand; some silt and till on modified end moraines; in St. Stephen area, moderately well-bedded shallow-dipping beds on top and flanks of modified esker	Variable; probable maximum >50 feet	Terraces and lag deposits on glacial ridges	Up to 100 feet	Marine
5/2	Wave-modified moraine	As in unit 2; upper parts of deposits flat-lying, may be fossiliferous	30-100 feet approximately	Smooth-topped ridges	Variable; up to 100 feet	
5	Marine basin deposits (includes glaciolacustrine deposits, below)	Clay, silty clay, silt, some fine sand; fossil marine shells in only a few places; banded	Total unknown, maximum observed 30 feet	Flat to gently undulating; dissected in places	Small	Glaciolacustrine
5	Glaciolacustrine deposits	Silt, silty clay, very fine sand; most deposits varved	Thin, observed <10 feet	Flat to gently undulating; dissected in places; found only in vicinity of St. George	Small	
4	Outwash plain, fan, delta	Gravels of all sizes, sand, minor silt; stratified generally in gently-dipping beds, but steep-dipping where kettled; angular material	Estimated >100 feet	Flat, gently sloping to gently undulating; many abandoned channels; deep kettles abundant in some areas	Generally small; kettled areas, up to 50 feet	Glaciofluvial
4	Outwash channel deposits	Coarse, angular boulder gravel; some sand	<10 feet; some to 25 feet	Flat to gently undulating	Small	
4/2	Outwash-moraine complex	Gravel, sand, some silt of units 4 and 2 (also 3, in part)	Estimated up to 100 feet	Ridges, knob and kettle topography where relief is reduced by partial infilling of depressions by flat-lying, channelled outwash	Variable; flat to hummocky, 250 feet	Glaciofluvial
3	Ice-contact stratified drift	Stratified, angular, sand, gravel of all sizes, including boulders; some silt and till	Variable; many exposures >40 feet; maximum probably <100 feet	Knob and kettle; hummocky; individual conical hills; steep-sided sinuous linear ridges (eskers)	To 200 feet	
2	Moraine	All grades of sand, gravel, till; composition, bedding, stratification, sorting of material extremely variable; post-depositional slump structures common	Variable; maximum 2300 feet	Irregular hummocky terrain; major and minor ridges	Generally <50 feet, to 200 feet in major moraines	Glacial
2/R	Moraine veneer on bedrock	Mainly gravel, sand, boulders, discontinuous deposits over bedrock	Generally <10 feet	Bedrock controlled topography	Small	
1	Till	Heterogeneous mixture of material of all grade sizes; composition varies with bedrock lithology; loose to very compact	Generally <10 feet	Reflects topography of underlying bedrock; drumlins in some areas	±20 feet, drumlins to 150 feet	Bedrock
R	Bedrock	Granite (mainly of St. George Intrusive Complex), diorite, diabase, gabbro; siliceous to mafic volcanic rocks, sedimentary rocks ranging from conglomerate to siltstone and argillite, and their metamorphic equivalents		Glacially smoothed hills; moderately hilly to rolling	Variable 300-800 feet; generally <350 feet	

- Geological boundary (approximate)
- Glacial striae (azimuth of bearings in degrees)
- Top of abandoned scarp (hashures on slope)
- Abandoned river channel
- Drumlin, drumlinoid ridges, crag and tail features
- Moraine ridge or complex
- Fossil locality
- Locality of radiocarbon age determinations (laboratory number, age)
- Outwash channel (small, large)

Geology by N. R. Gadd, 1967-1969

To accompany GSC Paper 71-34 by N. R. Gadd

Geological cartography by the Geological Survey of Canada

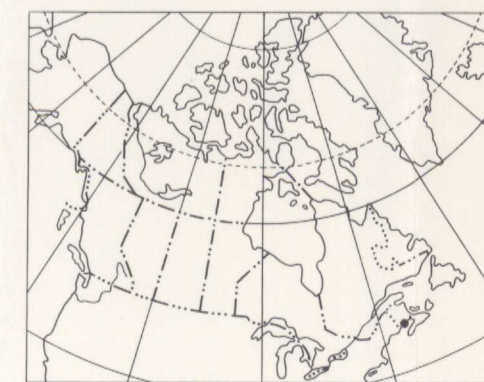
Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada

Base-map published at the same scale by the Army Survey Establishment, R. C. E. in 1966

Copies of the topographical edition of this map may be obtained from the Map Distribution Office, Department of Energy, Mines and Resources, Ottawa

Magnetic declination 1972 varies from 21° 12' westerly at the centre of east edge to 19° 57' westerly at the centre of west edge. Mean annual change = -1.9'

Published, 1973
Copies of this map may be obtained from the Geological Survey of Canada, Ottawa

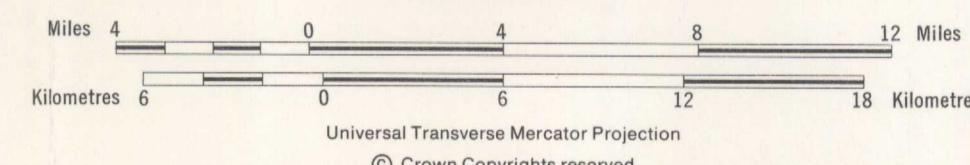


INDEX MAP

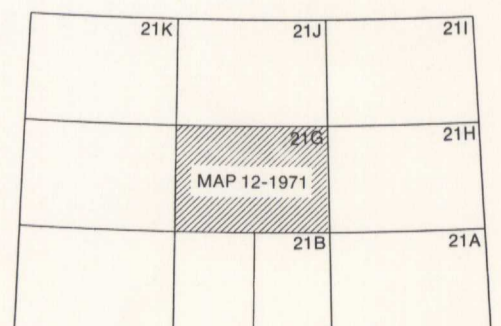


MAP 12-1971
PAPER 71-34
QUATERNARY GEOLOGY
FREDERICTON
NEW BRUNSWICK

Scale 1:250,000



Universal Transverse Mercator Projection
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NATIONAL TOPOGRAPHIC SYSTEM REFERENCE AND INDEX TO GEOLOGICAL SURVEY OF CANADA MAPS
MAP 12-1971

FREDERICTON
NEW BRUNSWICK