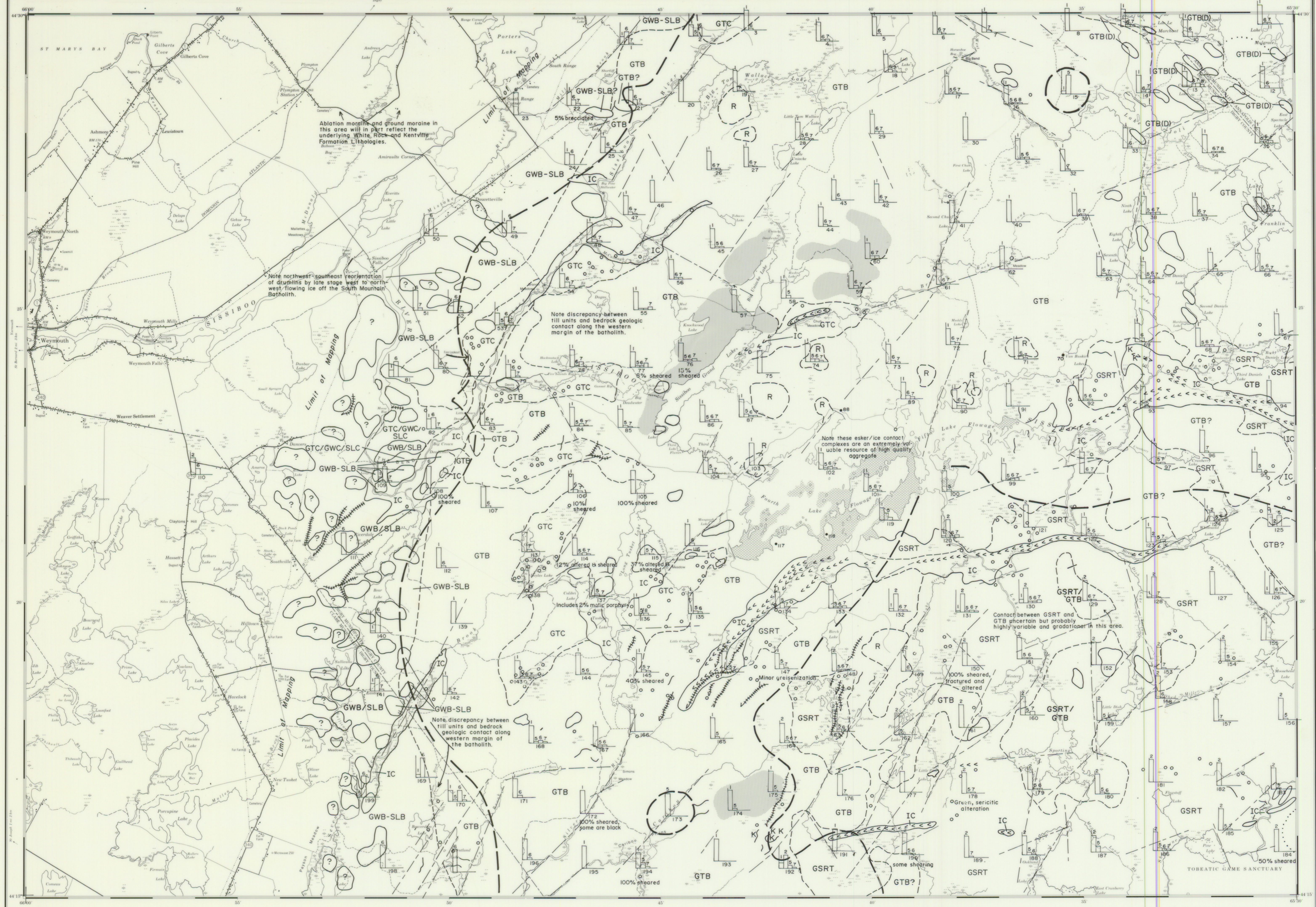
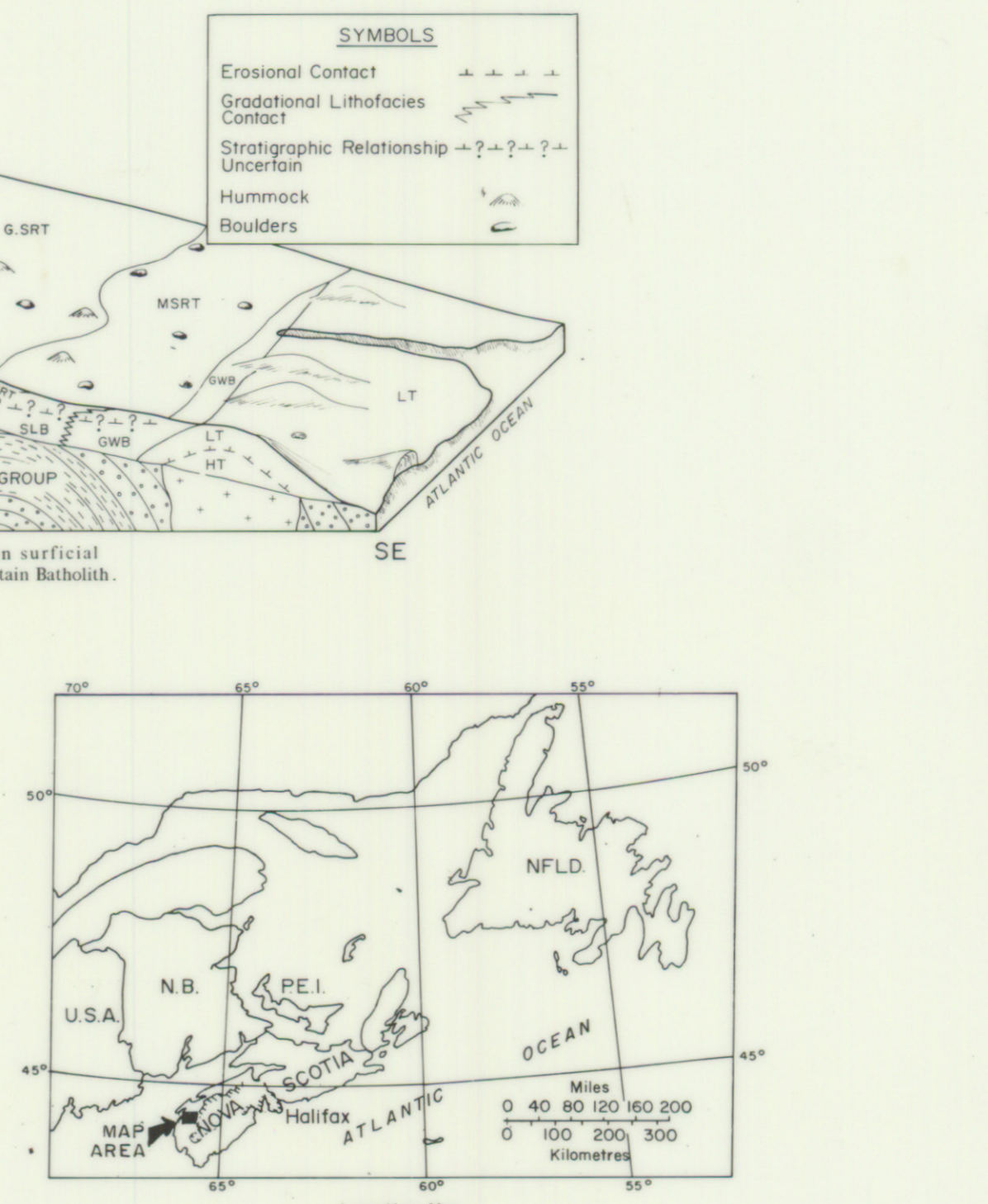
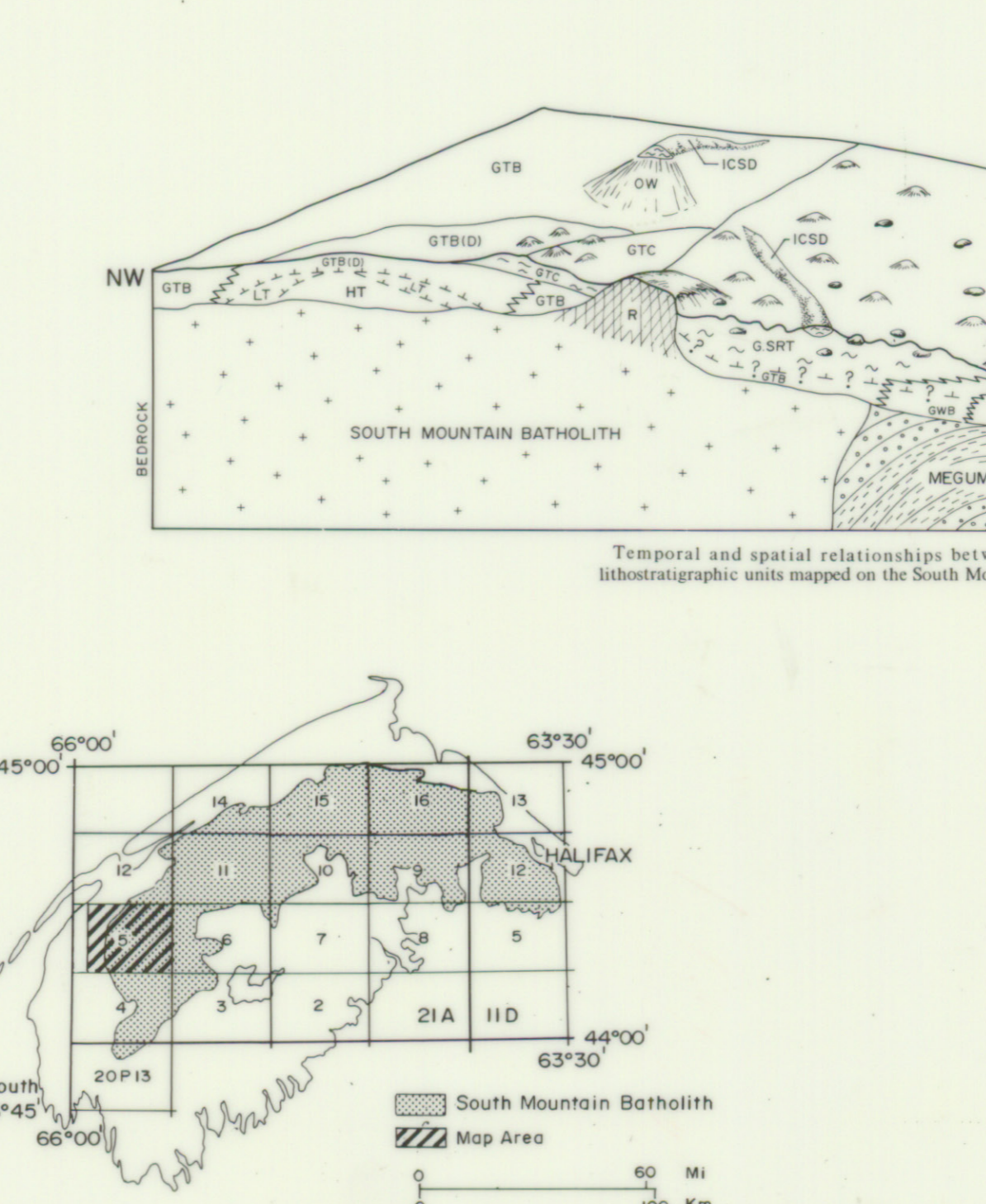
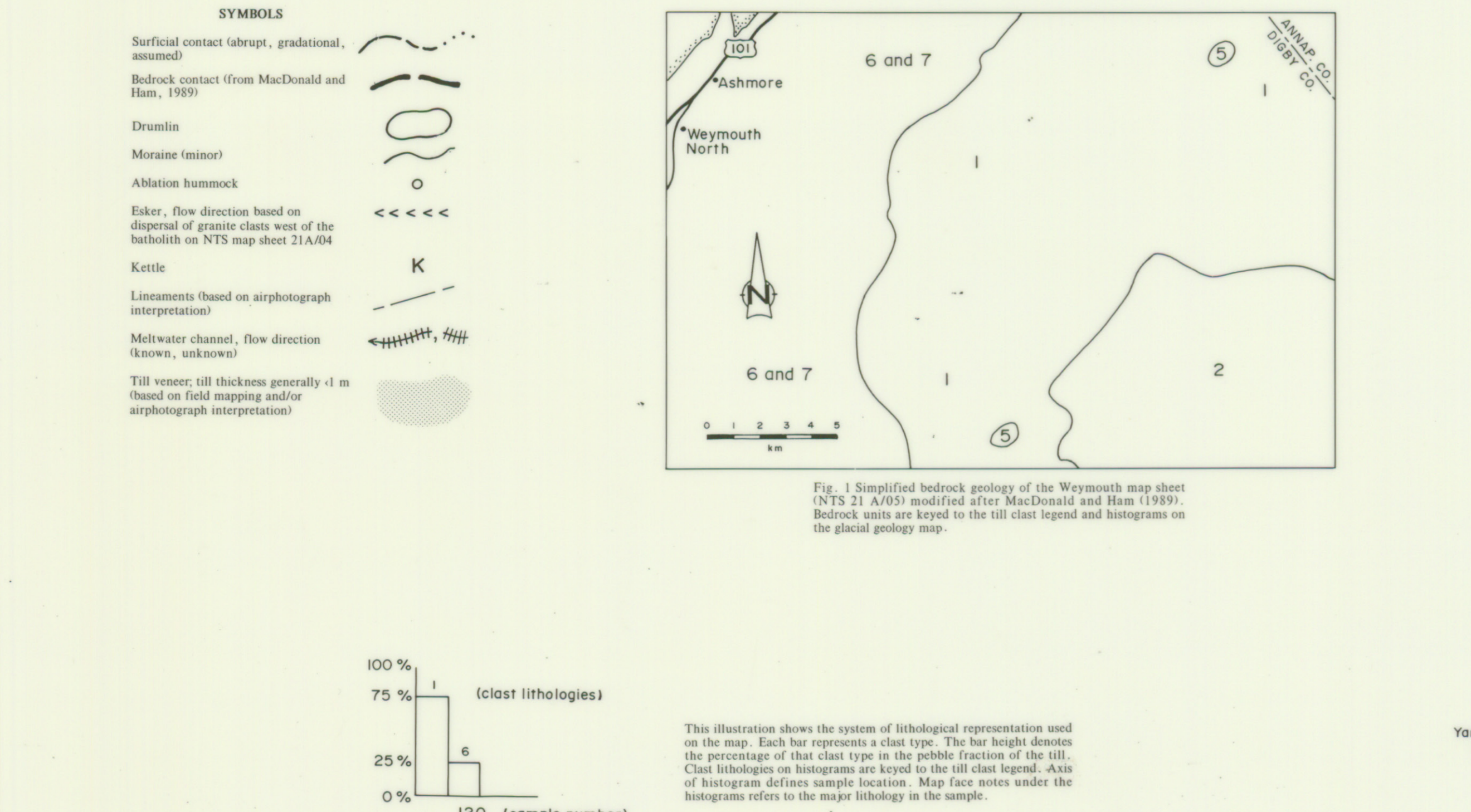


- QUATERNARY**
- HOLOCENE - LATE WISCONSINAN**
- MA** **OW**
MARINE - ALLUVIAL AND OUTWASH DEPOSITS (MA, OW): MA: silty clay, sand and gravel; forms marine deposits, alluvial floodplains and alluvial channel deposits. OW: silt, sand and gravel; massive to horizontally bedded; channel sequences common; forms flat plains and terraced deposits.
- IC**
ICE-CONTACT DEPOSITS (IC): silty sand, gravel and boulders; abrupt grain size transition from shallow- to steeply-dipping beds; faulting is common; clasts reflect provenance of surrounding till; may be interstratified with till; forms kames, same terrace, ice contact deltas and eskers; thickness 1-15 m.
- LATE - MIDDLE WISCONSINAN**
- GSRT** **MSRT**
SHELburne RIVER TILL (GSRT and MSRT): lithological facies loose, texture varies from a sandy matrix-rich to stony, clast supported till; colour varies from white (10YR5/1) to very pale brown (10YR7/3); non-washed appearance; occurs as hummocks, ridges and a rolling ground moraine; deposits are crudely stratified, spatially associated with kames and eskers; exhibits extensive overlap of clasts down-ice onto adjacent bedrock units; renewal distances vary from 0.1 km to 5 km; matrix may be derived from up-ice lithologies and may not reflect the composition of the pebble fraction; thickness varies from 1-3 m in areas of ground moraine to 10-15 m on hummocks and ridges; the major transport direction is toward the southeast with lesser transport toward the south and west.
- GTC** **GWC** **SLC**
BEAVER RIVER TILL: Divided into ablation, ground moraine and drumlin-derived units.
- GTB** **GWB** **SLB**
Ablation moraine: May occur as granite (GTC), greywacke (GWC) and/or slate (SLC) lithological facies; loose, matrix supported till containing interbeds of silt, sand and gravel; colour varies from very pale brown (10YR7/4) to yellowish-brown (10YR5/4); forms hummocks and ridges with associated ice-contact deposits; locally derived or may exhibit extensive overlap of clasts and matrix down-ice onto adjacent rock types; renewal distances vary from 0.1 to 6 km; thickness 1-10 m; glacial transport is toward the southeast and south.
- GTBD**
Ground moraine: Subdivided into granite (GTB) and greywacke-slate (GWB-SLB) lithological facies; structures stony matrix, though under varieties with minor washed zones around boulders are common; colour varies from light yellowish-brown (10YR6/4) to dark yellowish-brown (10YR4/4) in the granitic facies, light olive-brown (2.5YR4/6) in the greywacke and slate facies; generally forms a featureless ground moraine; exhibits rapid lithological change down-ice of bedrock contacts, ~90% of clasts are transported less than 1 km; renewal distances vary from tens to hundreds of metres; thickness 1-4 m; glacial transport directions are difficult to determine due to short renewal distance, it is southeastward across most of the South Mountain Batholith (SMB); however, northeast, north-westward and westward dispersal was mapped in the southern and western margins of the SMB.
- GTB(D)**
Drumlin-derived moraine (GTB(D)): loose, medium- to coarse-grained, sandy matrix, moderately stony, minor washing; colour is brown (10YR5/3) to dark yellowish-brown (10YR4/4); till mantles and forms a ground moraine between drumlins; non-granitic lithologies are incorporated from stratigraphically older till; matrix composition is in part dependent on composition of reworked older till; thickness 1-4 m; actual glacial transport directions are the same as those of the ground moraine unit; however, a strong southeast transport was inherited from older, reworked southeast-transported till(s).
- LT**
LEWRENCE TOWN TILL (LT): Muddy to sandy till, moderately compact, jointed, greenish mottling in the weathered zone; colour varies from dark reddish-brown (2.5YR4/6) to strong brown (7.5YR4/6); occurs as a ground moraine and drumlin; clast lithologies vary from 10-90% local bedrock to 10-90% non-granitic clasts derived from as far as 90 km; distal sources are the metamorphic volcanic massif complex of the Cobequid Highlands, Meguma Group, meta-sedimentary and volcanic rocks of the White Rock, New Canada, Kentville and Torbrook formations, and North Mountain basalt; renewal distances vary from hundreds of metres to tens of kilometres; thickness is 1-2 m as a ground moraine and 4-30 m as drumlin; dispersal direction varies from southeast to south-eastward.
- EARLY WISCONSINAN (?)**
- GTA** **STA**
HARTLEN TILL (HT): Occurs as granite (GTA) and slate (STA) lithological facies; sandy, compact till, clast-rich, fissile; colour varies from strong brown (7.5YR4/6) in granite facies to olive (5Y5/3) in slate facies; generally forms or cores drumlins; clast lithology dominated by local bedrock lithologies; 10-35% of clasts transported 20-25 km; thickness 1-10 m; glacial transport is toward the southeast with lesser transport toward the east-southeast.
- PRE-WISCONSINAN**
- R**
RESIDUUM (R): Chemically-weathered bedrock; commonly develops a soil-like consistency due to in situ weathering followed by glacial mixing; may retain hypidiomorphic granular texture of parent granite, preservation of K-feldspar megacrysts and hydrothermally altered (fracture zones) restricted to the topographically higher regions of the Southern Uplands; thickness varies from a veneer to 3 m.
- D**
BEDROCK (D): Glacially-scoured bedrock; areas of discontinuous till veneer and B-horizon soil developed to bedrock; bedrock structure and large scale features of glacial erosion are easily discernible on aerial photographs.



- SYMBOLS**
- Surficial contact (abrupt, gradational, assumed)
- Bedrock contact (from MacDonald and Ham, 1989)
- Drumlin
- Moraine (minor)
- Ablation hummock
- Esker, flow direction based on dispersal of granite clasts west of the batholith on NTS map sheet 21A/04
- Kettle
- Lineaments (based on airphoto interpretation)
- Meltwater channel, flow direction (known, assumed)
- Till veneer; till thickness generally <1 m (based on field mapping and/or airphoto interpretation)
- TILL CLAST LEGEND**
- 1** SCRAP LAKE GRANODIORITE/MONZOGANITE: light- to medium-grey, medium- to coarse-grained, megacrystic biotite (10 - 22%), muscovite (trace - 15%); may contain metamictic zirconolite.
- 2** DAVIS LAKE LEUCOGANITE: white- to light-grey, medium- to coarse-grained, very megacrystic biotite (4 - 10%), muscovite (1 - 3%).
- 5** LEUCOGANITE AND LEUCO-MONZOGANITE: white- to light-grey, medium- to coarse-grained, very megacrystic biotite (3 - 8%), muscovite (1 - 3%).
- 6** MEGUMA GROUP: slate and metawacke; may include some White Rock and Kentville formation lithologies.
- 7** FOREIGN: quartzite (brown, red, green, orange), sandstone, basalt, metasilstone, rhyolite; may include locally derived White Rock and Kentville formation lithologies as well as clasts with source areas north of the map area.
- 8** MAFIC PORPHYRY: may be assimilated Meguma Group metasediment.
- Rock units are in part simplified after MacDonald and Ham, 1989. Numbers in boxes correspond with numbers on bars of the till clast histograms and also with the rock units on the simplified bedrock geology map (Fig. 1).
- This map is based on information taken from the National Topographic System map sheet number 21 A/05 (G) 1993. Her Majesty the Queen in Right of Canada with permission of Energy, Mines and Resources Canada.



REFERENCES

MacDonald, M. A. and Ham, L. J. 1989. Preliminary Geological Map of Weymouth, NTS Sheet 21 A/05. Nova Scotia Department of Mines and Energy, Open File Map 89-012, scale 1:50,000.

Potomoni, H. 1985. Till lithology and glacial transport in Kshmo, Eastern Finland. *Boreas*, v. 14, p. 67-74.

Nova Scotia Department of Natural Resources
Mines and Energy Branches
OPEN FILE MAP 93-003
Glacial and Till Clast Geology of
WEYMOUTH
NOVA SCOTIA
P. W. Finck, R. M. Graves and F. J. Boner
Scale 1:50,000
0 40 80 120 160 200
Kilometres
0 40 80 120 160 200
Miles
Nova Scotia Department of Natural Resources
Honourable Don Downe, Minister
Halifax, Nova Scotia
1993

Department of Natural Resources
Canada-Nova Scotia Cooperation Agreement on Mineral Development 1993