Newfoundland Labrador

Department of Environment and Conservation
Department of Natural Resources

Map No.1d

SURFICIAL GEOLOGY

Central Newfoundland

UNIT A

Exposed Bedrock: *exposed bedrock with little or no sediment or vegetation cover; patches of till and other surficial sediment present but rare; topography and relief variable, and bedrock controlled*

Concealed Bedrock: *bedrock, mainly concealed by vegetation; patches of till, sand and gravel, and bog (commonly less than 1.5 m thick) and exposed bedrock are common, but form less than 50% of the unit*

Diamicton Veneer: *thin (less than 1.5m) discontinuous sheet of diamicton (poorly sorted sediment containing grain sizes from clay to boulders) overlying bedrock; patches of exposed bedrock and thicker sediment cover common; diamicton generally contains from 20% to 90% matrix (sand size or finer), and 80% to 10% clasts (greater than sand size); matrices generally dominated by sand with less than 20% silt and clay; maximum clast sizes from 1 to 2 m diameter; but clasts mostly granules (0.2 to 0.4cmc diameter); relief and topography variable and bedrock controlled*

Ridged Diamicton: *a blanket of diamicton, 1.5 to 20m thick, with a topography consisting of streamlined elongate ridges 1.5 to 20m high, and 0.2 to 500m long; diamicton is of similar composition to diamicton veneer; this unit was likely deposited under actively flowing ice, with the long axis of ridges either parallel or perpendicular to ice flow*

Hummocky Diamicton: *a blanket of diamicton, 1.5 to 15m thick having irregular hummocky topography and relief of 2 to 10m; hummocks are mainly composed of diamicton, but some may contain poorly sorted sand and gravel; diamicton is of similar composition to diamicton veneer; bog is commonly found in low areas between hummocks; this unit was mainly deposited by ice disintegration and stagnation during deglaciation*

Diamicton Blanket: *similar to diamicton veneer; any deposit greater than 1.5m thick; minor irregularities of the underlying units are masked but the major topographic form is still evident*

UNIT B

Glaciofluvial Gravel and Sand: *poor to well sorted sand and gravel, 1.5 to 50m thick, having a diverse surface topography; gravel is pebble to cobble sized, and forms 50 to 95% of the sediment; the unit includes eskers (sinuous, elongate ridges 3 to 15m high, and up to 5km long); kames (moderated to steep sided mounds up to 15m high), and outwash plains (plains with low relief, and a channeled surface, 3 to 20m thick, and up to 10km long)*

Marine clay, sand, gravel and diamicton: *this unit consists of a wide range of sediment types, deposited in a marine or glaciomarine environment; moderate to well sorted gravel and sand, up to 50 m thick, found in marine terraces and raised beaches; well sorted silt and clay, up to 90m thick, are found in ice distal glaciomarine deposits with most of the sediment lying below modern sea level; all of these sediments have been raised to their present elevation by isostatic rebound, resulting in relative sea level fall since deglaciation*

Fluvial: *low relief plains with channeled surfaces close to modern rivers, consisting of moderate to well sorted gravel, sand, silt and clay, deposited in modern river systems*

Colluvium: *a mixture of rock debris and unconsolidated sediment deposited by mass movement forming aprons at the base of steep slopes*

Bog: *accumulations of degraded organic matter deposited in poorly drained low-lying areas*

SYMBOLS

Geological Boundary (assumed).....

Esker.....

SURFICIAL HYDROSTRATIGRAPHIC UNITS

Unit A - Till Deposits

Well yields range from 2 litres per minute (L/min) to 136 L/min and averaged 29 L/min with a median value of 18 L/min. Well depths range from 9 metres (m) to 50 m and averaged 17 m. The available data indicate that on average, wells drilled within Unit A have moderate potential yield.

Unit B - Sand and Gravel Deposits

Well yields range from 4 L/min to 683 L/min and averaged 102 L/min with a median value of 50 L/min. Well depths range from 9 m to 49 m and averaged 23 m. The available data indicates that wells drilled within Unit B have a moderate to high potential yield.

Elevation in feet above mean sea level. Contour interval approximately 100 feet

REFERENCE:

1:500,000 Surficial Geology -Liverman, D.G.E and Taylor, D.M 1990: Surficial geology of insular Newfoundland; preliminary version: Newfoundland Department of Mines and Energy, Geological Survey Branch Map 90-08

0 5 10 15 20 25
Kilometres

amec
AMEC Earth & Environmental
A Division of AMEC Americas Ltd.