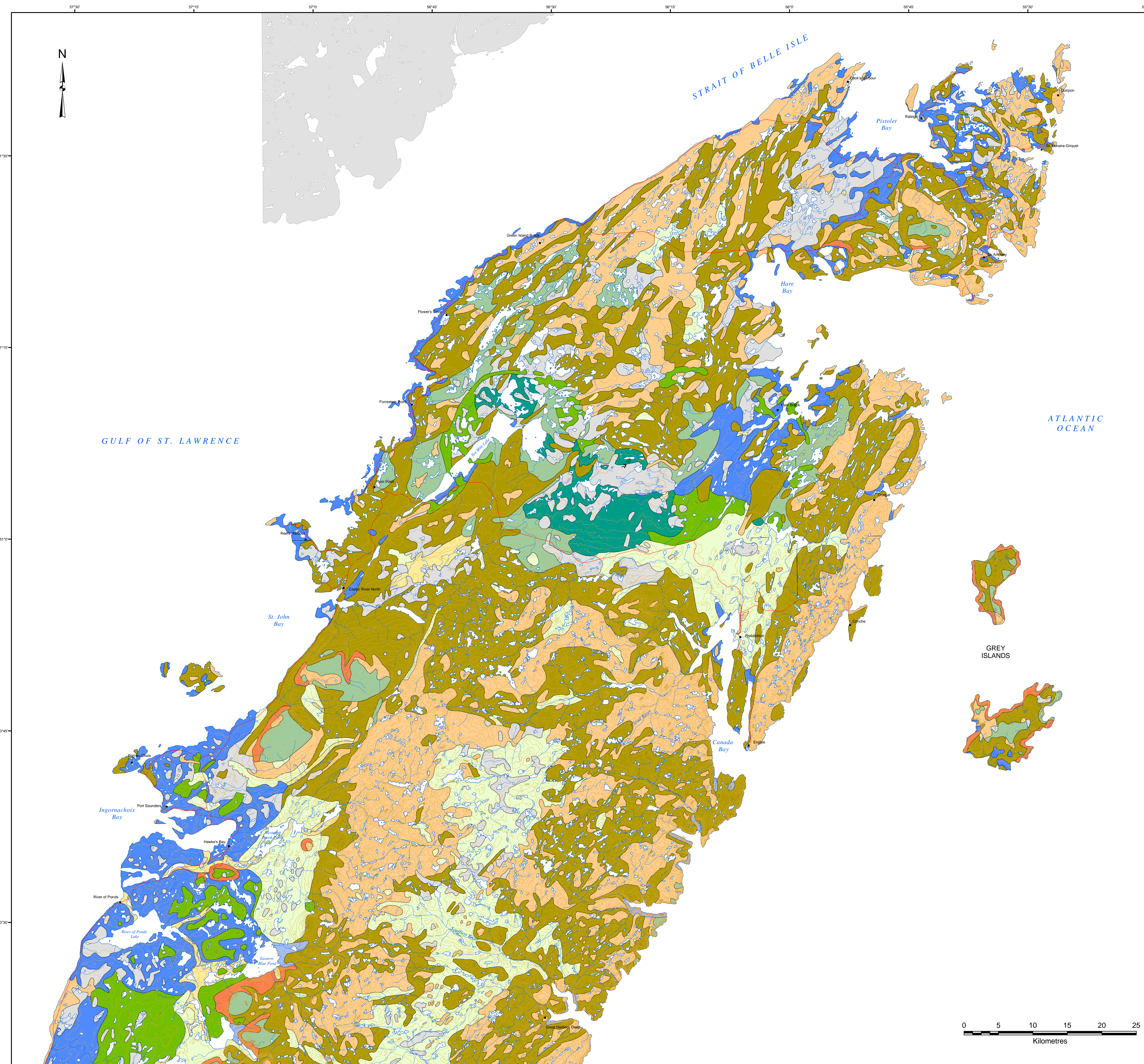


Map No. 1a
SURFICIAL GEOLOGY
Western Newfoundland



- 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
- Diamiction Veneer:** thin (less than 1.5m) discontinuous sheet of diamiction (poorly sorted sediment containing grain sizes from clay to boulders) overlying bedrock; patches of exposed bedrock and thicker sediment cover common; diamiction 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 0.4m diameter); relief and topography variable and bedrock controlled
- Ridged Diamiction:** a blanket of diamiction, 1.5 to 20m thick, with a topography consisting of streamlined elongate ridges 1.5 to 20m high, and 0.2 to 500m long; diamiction is of similar composition to diamiction veneer; this unit was likely deposited under actively flowing ice, with the long axis of ridges either parallel or perpendicular to ice flow
- Hummocky Diamiction:** a blanket of diamiction, 1.5 to 15m thick having irregular hummocky topography and relief of 2 to 10m; hummocks are mainly composed of diamiction, but some may contain poorly sorted sand and gravel; diamiction is of similar composition to diamiction veneer; bog is commonly found in low areas between hummocks; this unit was mainly deposited by ice disintegration and stagnation during deglaciation
- Diamiction Blanket:** similar to diamiction 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 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 channelled surface, 3 to 20m thick, and up to 10km long)
- Marine clay, sand, gravel and diamiction:** 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 channelled 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 0 litres per minute (L/min) to 232 L/min and average 48 L/min. Well depths range from 9 meters (m) to 40 m and average 21 m. The available data indicates that on average, wells drilled within Unit 1 have a moderate potential yield.
- Unit B – Sand and Gravel Deposits**
Well yields range from 0 L/min to 1,793 L/min and averaged 74 L/min. Well depths range from 5 m to 121 m and averaged 29 m. The available data indicates that wells drilled within Unit B have a moderate potential yield.

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

REFERENCE:
1:250,000 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

