



MAP 1555A
SURFICIAL GEOLOGY
SOMERSET ISLAND
 DISTRICT OF FRANKLIN
 NORTHWEST TERRITORIES

Scale 1:250 000
 Kilometres 0 2 4 6 8 10 12 14 16 18
 Miles 0 2 4 6 8 10 12 14 16 18
 Transverse Mercator Projection
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LEGEND

- SURFICIAL DEPOSITS**
- QUATERNARY**
- POST-LAST GLACIATION**
- NONGLACIAL ENVIRONMENT**
COLLUVIAL SEDIMENTS: sorted debris, 1-10 m thick, mantling lower slopes and valley floors, soliflucted and washed from upslope weathered rock areas; deposition active since deglaciation but basal sediments probably date from earlier nonglacial intervals
- 7b Calcareous colluvium: slightly stony sandy muds derived from weathered carbonates (unit 7a)
 - 7a Granitic colluvium: muddy sands derived from weathered gneiss (unit 7a)
- FLUVIAL SEDIMENTS:** gravel and sand, 2-20 m thick, deposited on floodplains and fans
- 6b Seasonally flooded sediments
 - 6a Terraced sediments above present flood zone
- MARINE SEDIMENTS:** gravel, sand, silt, and clay, 1-100 m thick, deposited in deltaic, beach, and nearshore environments during regression of the postglacial sea
- 5c Beach sediments: gravel and sand, 1-5 m thick, forming ridges and swales. (SCT: Site of beach sediment containing shells other than the last glaciation)
 - 5b Nearshore sediments: silt and fine sand, 1-5 m thick, forming plains
 - 5a Deltaic sediments: coarsening upward sequences of clay, silt, sand, and gravel; 10-100 m thick, with flat, terraced, dissected, or gullied surfaces. Some deltas at marine limit are glaciomarine features (SAT: delta thought to predate the last glaciation on the basis of elevation and radiocarbon-dated driftwood)
- LAST GLACIATION**
- PROGLACIAL AND GLACIAL ENVIRONMENT**
GLACIOLACUSTRINE SEDIMENTS: clay, silt, and sand, less than 1 m thick, deposited in ice-dammed lakes; surface mimics form of underlying weathered rock or colluvium
- 4
- GLACIOLACUSTRINE SEDIMENTS:** gravel and sand, 1-10 m thick, deposited beneath and in front of the marginal zone of a glacier
- 3b
 - 3a Kames: gravel and sand, 5-100 m thick, forming conical hills and ridges
- GLACIAL ENVIRONMENT**
TILL: nonsorted debris, 0.5-20 m thick, with contrasting vegetation covers reflecting unconsolidated compositional differences in till, dominantly lodgment till
- 2b Tilt veneer: 0.5-2 m thick, surface mimics form of underlying rock surface; 2b1: 30-60% vegetation cover; 2b2: 1-5% vegetation cover
 - 2a Till blanket: 2-20 m thick, gently rolling surface, fluted in places, 30-60% vegetation cover
- PRE-LAST GLACIATION**
- NONGLACIAL (PERIGLACIAL) ENVIRONMENT**
REGISSION: residual soils of various textures, about 1 m thick, overlying metamorphic and sedimentary rocks on smooth, gentle slopes interrupted by tors, cryoplanation terraces, andivation hollows
- 1b Platy felsenmeer and silty, sandy rubble mantling limestone, dolostone, and sandstone; minor gravel mantling conglomerate
 - 1a Felsenmeer, composed of blocks 1-2 m across, with interstitial grit, mantling granite
- ROCK**
- PRE-QUATERNARY**
ROCK: rock of various lithologies and ages, hilly and hummocky with basins, steep slopes, and cliffs produced by glacial scouring
- Rc Unconsolidated sedimentary rock: quartz sandstone of Late Cretaceous to Early Tertiary age, unweathered
 - Rb Consolidated sedimentary rocks: limestone, dolostone, and sandstone of Late Precambrian to Early Devonian age with discontinuous veneer of rubble and till about 0.5 m thick
 - Ra Igneous and metamorphic rocks: gneiss, granite, and minor quartzite of Precambrian age, relatively unweathered
- Geological boundary (defined, granitic):**
 Boundary of Precambrian crystalline rocks and quartzite (defined, masked by till):
 Area of tors, 1-5 m high:
 Escarpment of cryoplanation terrace in bedrock, 1-2 m high:
 Compositional bands forming low strike ridges in metamorphic rocks and compositional bands in felsenmeer:
 Sedimentary beds forming low strike ridges and cusets in rock and colour bands in residual: approximate direction of dip known, unknown:
 Dispositional lineament along fractures in bedrock, 1-10 m deep:
 Cliff in bedrock, 10-300 m high:
 Canyon in bedrock, 10-300 m deep:
 Small cirque, large overton notch:
 Striae (ice flow direction known, unknown):
 Ice moulded bedrock form (crag and tail, roche moutonnée, rock drumlin), more than 500 m long:
 Crag and tail (till tail):
 Fluting in till:
 End moraine:
 Esker (direction of flow inferred):
 Small conical gravel hill (kame):
 Subglacial meltwater channel 5-20 m deep in bedrock and till:
 Lateral meltwater channel, 1-5 m deep in bedrock, residual, or till, built on upslope side:
 Marine limit recorded as walking limit on till:
 Area of raised beach ridges, 1-3 m high:
 Area of meltwater channels and eskers formed by small Neoglacial ice caps, surficial material, other than outwash, same as that of surrounding area:
 Retrogressive thaw flowslide:
 Groove in present foreshore sediments caused by grounded sea ice:
- Geology based on airphoto interpretation (1:60 000 scale) by A.S. Dyke, 1979 and on field work by J.A. Hetherill, A.S. Dyke, R.D. Thomas, and K.A. Drabinsky, 1972 and by A.S. Dyke, 1977
 To accompany Memoir 404 by A.S. Dyke
 Geological cartography by H.A. Thomson, 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 assembled by the Geological Survey of Canada from maps of the same scale published by the Army Survey Establishment, R.C.E. in 1966
 Copies of the topographical editions covering this map area may be obtained from the Canada Map Office, Department of Energy, Mines and Resources, Ottawa, Ontario K1A 0S9
 Magnetic declination 1987 varies from 49° 30' west in the SE corner to 27° 41' west in the NW corner. The magnetic compass is very erratic in this area
 Elevations in feet above mean sea level

