



GEOLOGICAL SURVEY OF CANADA  
DEPARTMENT OF ENERGY, MINES AND RESOURCES

SHEET 96 G

TERRAIN CLASSIFICATION  
AND SENSITIVITY SERIES (PRELIMINARY)

LEGEND

- |        |                                                                                                        |                                                                                                                                                                                                                                                                                     |
|--------|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I      | ORGANIC TERRAIN<br>(including muskeg)                                                                  | Peat, fen; peat-fen complex; commonly occurring as a cover on Units II, IX and X; flat to moderately sloping.                                                                                                                                                                       |
| II     | SILT-CLAY PLAINS<br>(marine and lake deposits)                                                         | Clay and silt, commonly surfaced by sand or silty sand, with discontinuous organic cover (see Unit I). Principally forming plains bordering rivers and coastal areas. Highly unstable in eroded slopes.                                                                             |
| III    | THERMOKARST LAKE BEDS                                                                                  | Clay, silt, peat, and local sand on low flat areas formerly occupied by tundra ponds. These materials generally less than ten feet thick over till or sand. Pingos generally confined to this unit.                                                                                 |
| IV     | BEACHES<br>(marine and lake)                                                                           | Gravel and/or sand ridges or flat areas along present or former shorelines.                                                                                                                                                                                                         |
| V      | RIVER DEPOSITS-FINE                                                                                    | Silt and silty sand in river channels, floodplains, low terraces adjoining rivers, and alluvial fans; includes organic silt, peat and minor gravel.                                                                                                                                 |
| VI     | RIVER DEPOSITS-COARSE                                                                                  | Gravel and sand in river channels, floodplains, low terraces adjoining rivers and alluvial fans. Includes some silt, peat, and organic silt.                                                                                                                                        |
| VII    | GRAVEL-SAND HILLS,<br>RIDGES AND TERRACES                                                              | Gravel, sand and some silt. Includes eskers, and other glaciofluvial deposits, river terraces, sand dunes, and moraines consisting of deformed gravelly-sandy strata.                                                                                                               |
| VIII   | SILT-CLAY HILLS AND RIDGES                                                                             | Mainly silt and clay with minor sand and gravel in moraines, strata tilted and folded.                                                                                                                                                                                              |
| IX     | TILL PLAIN                                                                                             | Till, occurring as ground moraine with low rolling relief or parallel drumlin ridges. Large areas are clayey to silty till as a thin veneer on shale; locally forms a thin veneer on other kinds of bedrock. Includes undifferentiated areas of Unit I.                             |
| X      | HUMMOCKY TILL                                                                                          | Clayey to gravelly-sand till, local gravel, forming rolling to hilly moraine composed of individual and coalescent hummocks. Local contrasts in material and ground ice between well drained hills and poorly drained depressions. Includes small undifferentiated areas of Unit I. |
| XI     | UPLAND AND PIEDMONT COMPLEXES                                                                          | Areas of moderate to low slope, in part hilly, surfaced by till, disintegrated bedrock, and local clay, silt, sand, or gravel. Unconsolidated deposits generally form a thin veneer over rock but in places they are thick (>100 feet).                                             |
| XII    | MOUNTAINOUS AND ROCKY AREAS                                                                            | Rock outcrop or rock thinly covered by rubble or drift. Moderate to steep slopes.                                                                                                                                                                                                   |
| XIII   | ERODED AND/OR ERODING RIVER<br>BANKS, COASTAL CLIFFS, AND<br>VALLEY WALLS (UNCONSOLIDATED<br>MATERIAL) | Various unconsolidated materials on moderate to steep slopes, generally with surface veneer of slope debris; includes unstable areas.                                                                                                                                               |
| XIII R | ERODED AND/OR ERODING RIVER<br>BANKS, COASTAL CLIFFS, AND<br>VALLEY WALLS (BEDROCK)                    | Bedrock outcrops or bedrock partly covered by rock detritus or unconsolidated materials; slopes commonly steep; includes unstable areas.                                                                                                                                            |

Note: Detailed unit descriptions of terrain sensitivity and the performance rating table are presented on a separate sheet which accompanies this map.

SOURCES OF INFORMATION

Fulton, R.J., *Surficial Deposits and Landform Maps*, 1:250,000 NTS 96F (Nahony Lake), 96G (Fort Franklin) 96E Norman Wells (SE & NW quadrant); Geological Survey of Canada, Open File 21, 1970.

Hughes, O.L., *Surficial Geology Maps*, 1:125,000 NTS 96C (Fort Norman), 96D (Carcajou Canyon), 96E (Norman Wells), 106G (Upper Ramparts River), 106H (Sans Sault Rapids), Geological Survey of Canada, Open File 26, 1970, revised by P.T. Hanley, Geological Survey of Canada, 1972. 96B (Blackwater Lake) unpublished manuscript.

Unpublished bedrock geology maps and data by D.G. Cook, and C.J. Vorath, Institute of Sedimentary and Petroleum Geology, Geological Survey of Canada, 1972.

Compiled by R.L. Monroe

Preliminary map prepared for open file, November, 1972  
Subject to revision and correction.

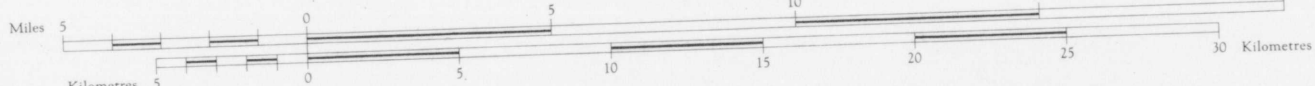
REFERENCE

- |                          |       |
|--------------------------|-------|
| Wagon or winter road     | ----- |
| Trail or path            | ..... |
| Village or settlement    | o     |
| Post office              | P     |
| Building or cabin        | ■     |
| R.C.M.P. post            | ■     |
| Horizontal control point | △     |
| Astronomical position    | ⊙     |
| Spot elevation (in feet) | 2905  |

FORT FRANKLIN  
NORTHWEST TERRITORIES  
DISTRICT OF MACKENZIE

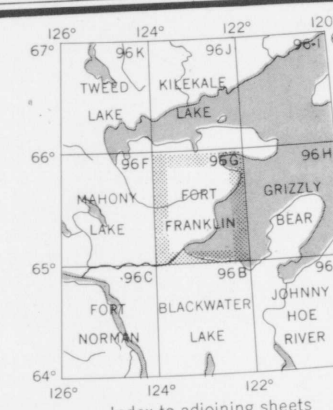
Scale 1:250,000

1 inch to 4 Miles Approximately



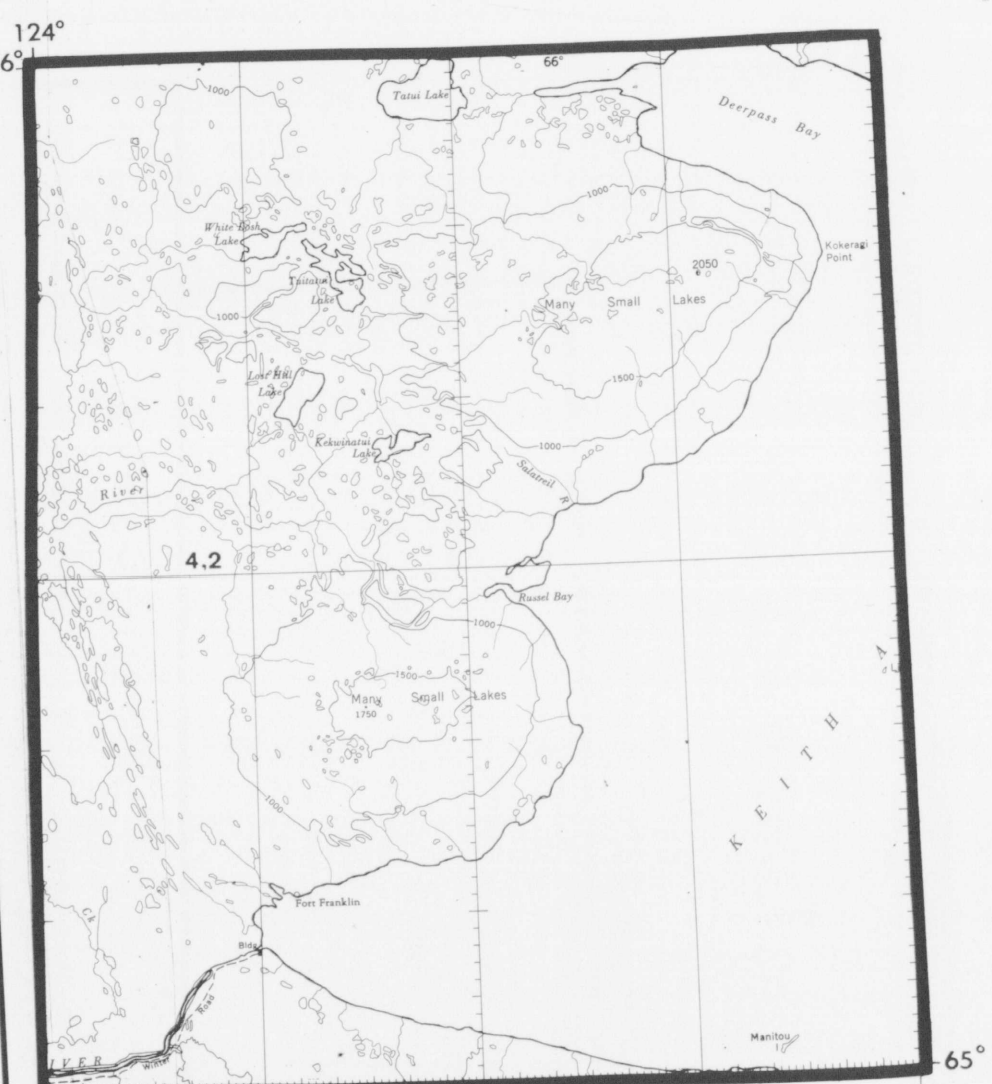
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- |                |                     |       |
|----------------|---------------------|-------|
| Streams:       | intermittent or dry | ----- |
| Intermittent   | .....               |       |
| Rapids, falls  | .....               |       |
| Marsh or swamp | .....               |       |
| Contours:      | elevation           | ..... |
| depression     | .....               |       |
| approximate    | .....               |       |
| Forest         | .....               |       |



BEDROCK LEGEND

1. Resistant, competent carbonate rocks, potentially suitable for use as rip-rap. Devonian limestone units Hume Formation, Ramparts Formation (Ramparts has been quarried and crushed for road and airstrip construction at Norman Wells). Devonian Bear Rock Formation (limestone and dolomite breccia) is variable in composition and consequently unpredictable in engineering qualities. Cambrian and Silurian Running Group are hard cryptocrystalline dolomites suitable for rip-rap etc. In Mackenzie Mts. includes Precambrian cemented quartzites.
2. Coherent or moderately competent rocks; fairly resistant to erosion but not strongly cemented; probably would break down rapidly under heavy traffic (e.g., if crushed and used for road surfacing). Includes Devonian Imperial Formation and Cretaceous sandstone, the latter of which locally weathers to an unconsolidated sand.
3. Moderately coherent rocks: more resistant than 4 and less easily eroded; capable of maintaining a steep cliff face 150 feet high. Mostly Devonian Hare Indian Formation shale with some thin limestone beds, but includes some Cretaceous siltstone and sandy shale.
4. Incoherent rocks: soft, easily eroded, subject to slumping, mostly Cretaceous shale but includes Devonian Imperial Formation shale. Includes Tertiary shales and poorly consolidated sand, (96 C,E).
- 3,2. Undivided Ramparts Formation limestone and Hare Indian Formation limestone.
- 4,2. Undivided sandstone and shale, either Cretaceous or Devonian Imperial Formation. Either lithology could be encountered at a given point but available data does not permit separation into more meaningful units.



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BEDROCK GEOLOGY

OPEN FILE  
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