

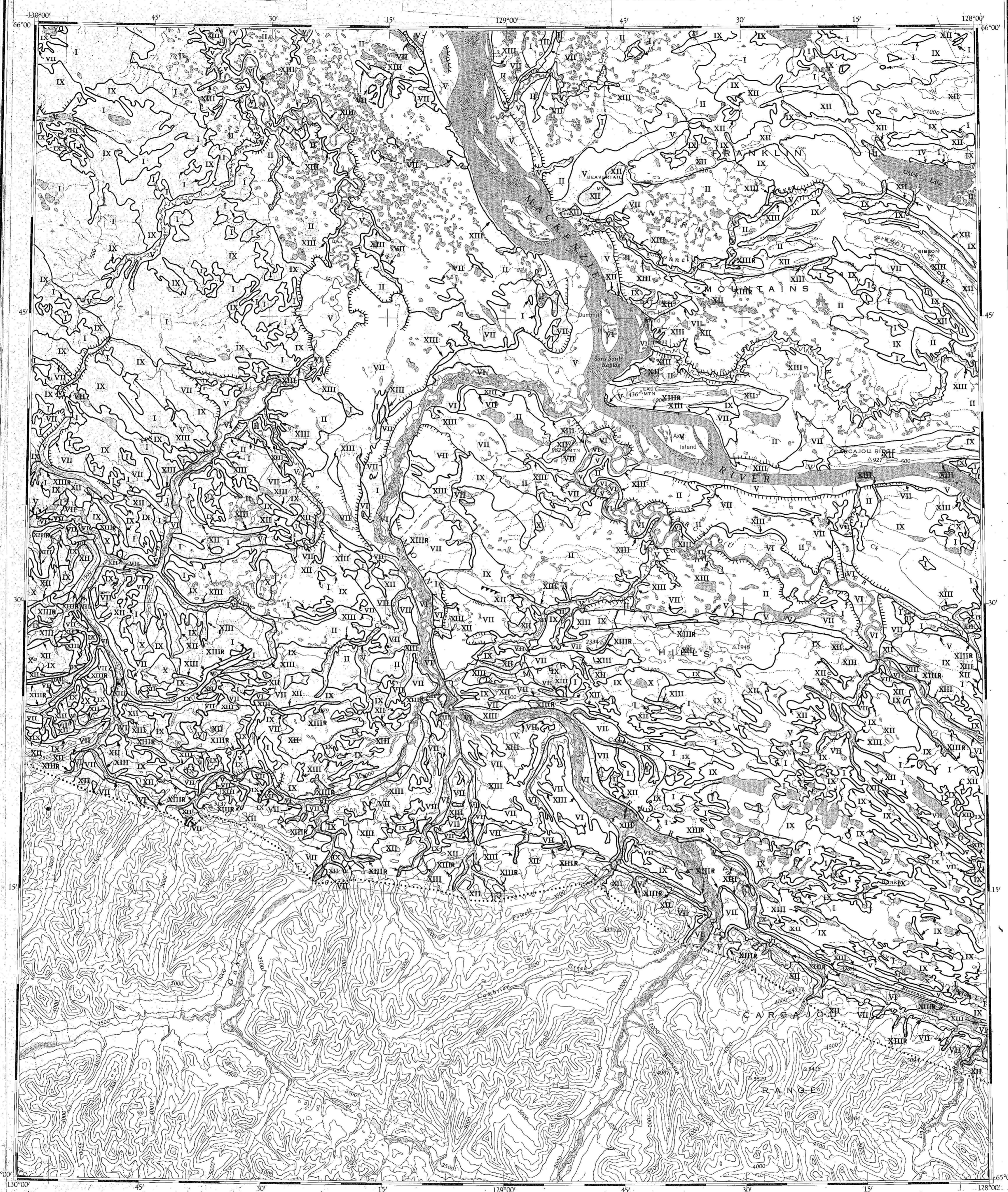


TERRAIN CLASSIFICATION AND SENSITIVITY SERIES (PRELIMINARY)

GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES

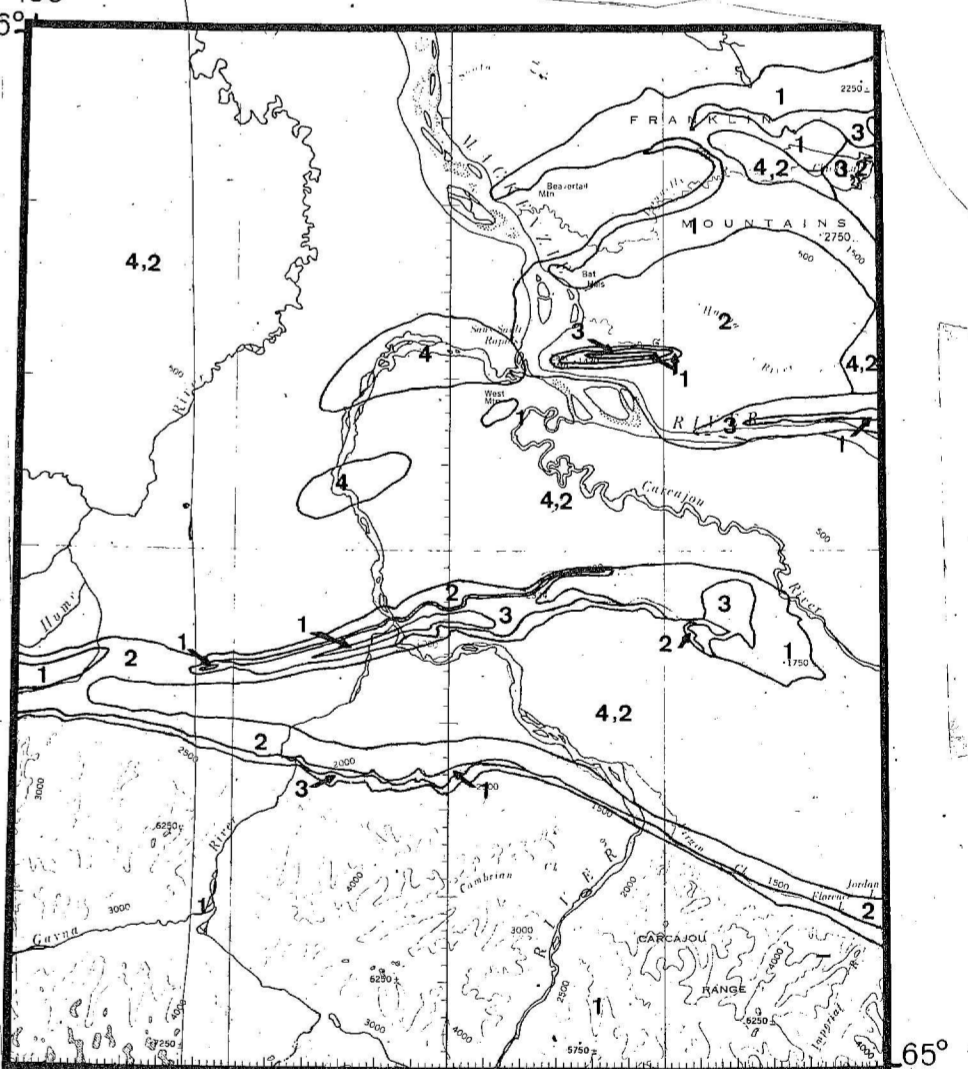
106 H

- LEGEND**
- I ORGANIC TERRAIN (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 (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 (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, RIDGES AND TERRACES Gravel, sand and some silt. Includes eskers, and other glaciofluvial deposits, river terraces, sand dunes, and moraines consisting of deformed gravely-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 gravely-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 BANKS, COASTAL CLIFFS, AND VALLEY WALLS (UNCONSOLIDATED MATERIAL) Various unconsolidated materials on moderate to steep slopes, generally with surface veneer of slope debris; includes unstable areas.
 - XIIIR ERODED AND/OR ERODING RIVER BANKS, COASTAL CLIFFS, AND VALLEY WALLS (BEDROCK) Bedrock outcrops or bedrock partly covered by rock detritus or unconsolidated materials; slopes commonly steep; includes unstable areas.



- 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 Ronning 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.

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



Scale: 5 0 10 20 Miles

SANS SAULT RAPIDS
BEDROCK GEOLOGY

OPEN FILE
132
JAN 1973
GEOLOGICAL SURVEY
OTTAWA

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SOURCES OF INFORMATION

Fulton, R.J., *Surficial Deposits and Landform Maps*, 1:250,000 NTS 96F (Mahony Lake), 96G (Fort Franklin), 96E (Norman Wells NE & 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 Saout 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. Yorath, Institute of Sedimentary and Petroleum Geology, Geological Survey of Canada, 1972.

Compiled by R.L. Monroe 1972

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TERRAIN CLASSIFICATION AND SENSITIVITY SERIES

Produced for
Indian and Northern Affairs
by
Department of Energy, Mines and Resources
as part of
the Environmental-Social Program,
Task Force on Northern Oil Development

- Road, all weather Chemin, route saisonnière
Wagon or winter road Chemin de terre ou d'hiver
Trail or portage Sentier ou portage
Town Ville
Village or settlement Village ou hameau
Post office Bureau de poste
Horizontal control point Point géodésique
Boundary monument Bonne frontière
- Stream
Intermittent or dry Intermittent ou à sec
Indefinite Indéfini
Rapid falls Rapides, chutes
Marsh or swamp Marais ou marécage
Intermittent lake Lac intermittent
Depression contours Courbes de coteau
Spot elevation, in feet Repère de nivellement en pieds

SANS SAULT RAPIDS

NORTHWEST TERRITORIES
DISTRICT OF MACKENZIE

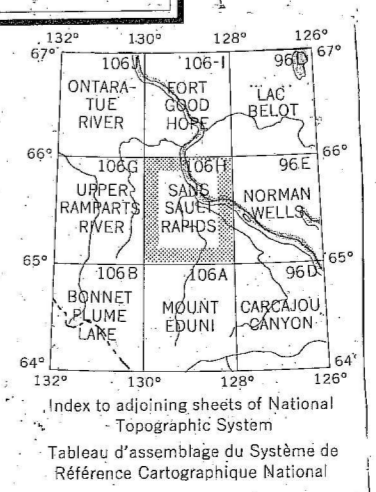
Scale 1:250,000 Echelle



Transverse Mercator Projection
North American Datum 1927
Contour Interval 500 feet
Elevations in feet above Mean Sea Level

Projection Transverse de Mercator
Réseau géodésique nord-américain unifié 1927
Équidistance des courbes 500 pieds
Élévations en pieds au-dessus du niveau moyen de la mer

- Stream
Intermittent or dry Intermittent ou à sec
Indefinite Indéfini
Rapid falls Rapides, chutes
Marsh or swamp Marais ou marécage
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