



TERRAIN CLASSIFICATION AND SENSITIVITY SERIES (PRELIMINARY)

GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF ENERGY, MINES AND RESOURCES

SHEET 95-1

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 area 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.
- XIIII 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.

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

SOURCES OF INFORMATION

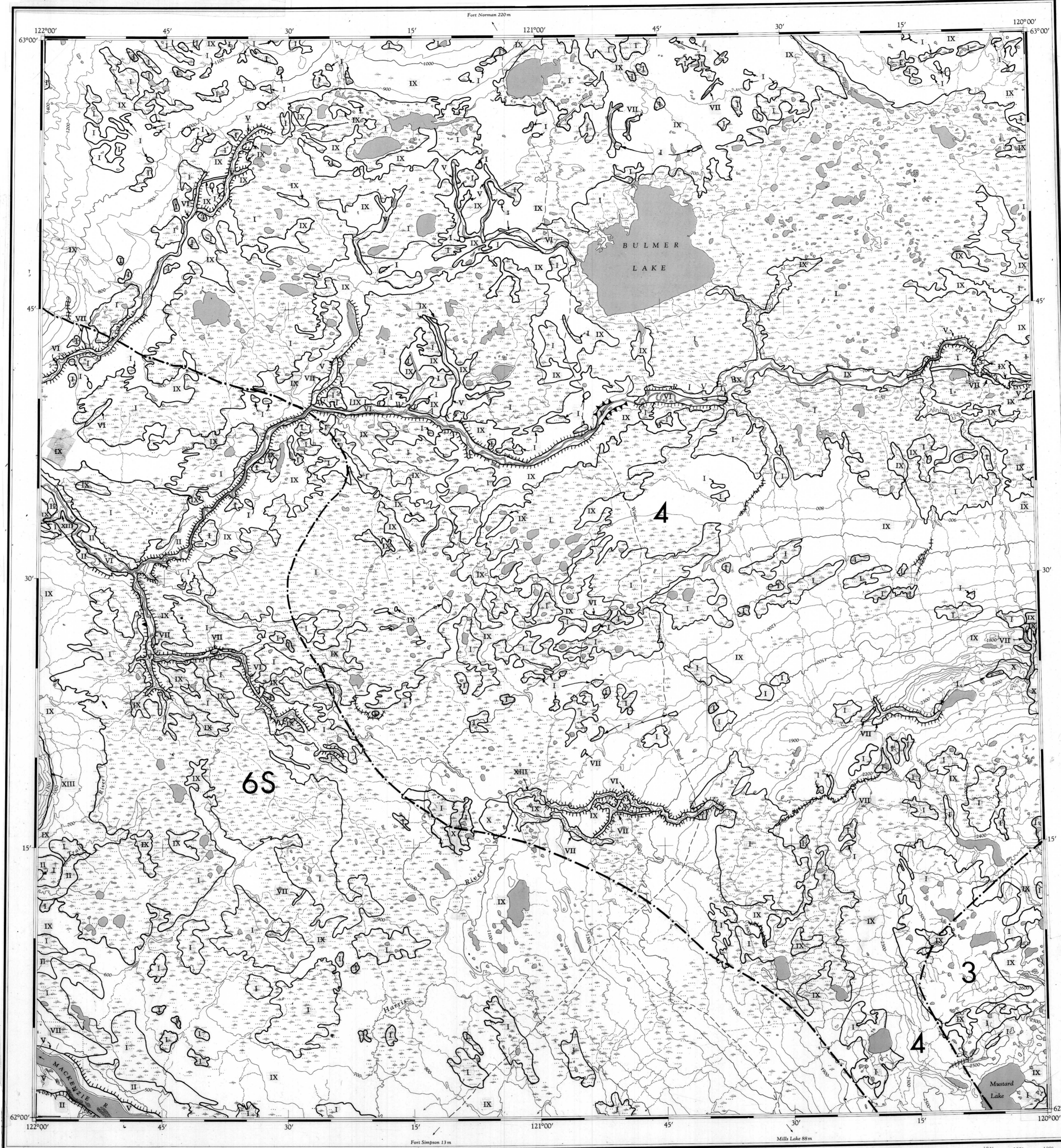
Rutter, N.W., Boydell, A.N., Mimming, G.V., Netterville, J.A., March 1973: Unpublished preliminary Surficial Geology Maps of NTS 95N (Dahadimi River), NTS 95O (Wrigley), NTS 95K (Root River), NTS 95J (Cassell Bend), NTS 95I (Bulmer Lake), NTS 95C (Sibbeston Lake), NTS 95H (Fort Simpson), NTS 95B (Fort Liard), NTS 95A (Trout Lake), NTS 85E (Mills Lake), and NTS 85D (Kakisa River).

Douglas, R.J.W., MacLean B. 1963: "Geology, Yukon Territory and Northwest Territories", Map 30-1963 Geological Survey of Canada.

Tarnocai, G. 1972: Soils of the Mackenzie River Area, Canada Soil Survey, Winnipeg Manitoba.

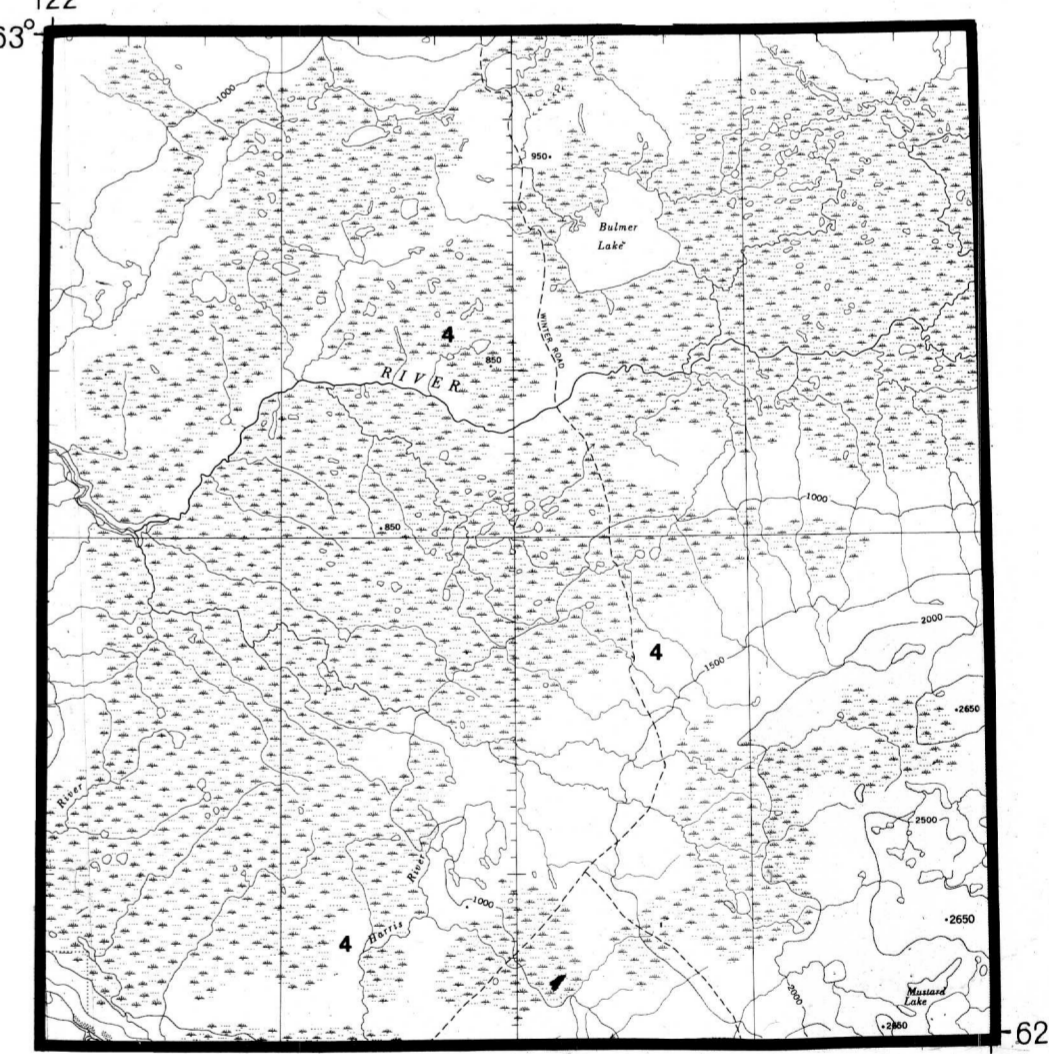
Compiled by R.L. Monroe 1973

Preliminary map prepared for open file, June 1973
Subject to revision and correction.



BEDROCK LEGEND

- 1 Resistant and competent rocks; potentially suitable for use as rip-rap. Comprised of Precambrian quartzite and argillite, Ordovician and Silurian limestone and dolomite; also included are Upper Devonian carbonate reefs and beds that border the Mackenzie River on the south side between Hay River and Fort Simpson (Escarpment, Twin Falls, and Kakisa Formations).
- 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). Devonian, Carboniferous and Cambrian sandstones.
- 3 Moderately coherent rocks; more resistant than 4 and less easily eroded; capable of maintaining a steep cliff face 150 feet high. Not represented within this mapping area.
- 4 Incoherent rocks; soft, easily eroded, subject to slumping; mostly Devonian shale and siltstone (Tahliana, Hay River, Funeral, Fort Simpson, and Horn River Formations), but includes extensive areas of Cretaceous shale.
- 1,2 Undivided Precambrian argillite, quartzite, and dolomite.
- 1,4 Areas of mixed coherence; resistant competent, carbonate rocks consisting of Upper Devonian and Carboniferous (Mississippian) limestone and dolomite (rating 1); occurring with mainly incoherent and easily eroded shale and siltstone of the same ages (rating 4).
- 2,4 Undivided Devonian sandstone, siltstone, and shale (unnamed) Carboniferous and Permian (mainly Pennsylvanian) sandstone, shale, limestone, and Cambrian sandstone, shale and dolomite.
- 4,2 Undivided Upper and Lower Cretaceous shale, sandstone, and conglomerate (rated 4, 2, in Liard Plateau only).
- Q Surficial deposits (where obscuring bedrock relationships).



5 0 10 20 Miles

BULMER LAKE
BEDROCK GEOLOGY

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OPEN FILE
131
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GEOLOGICAL SURVEY
OTTAWA

TERRAIN CLASSIFICATION AND SENSITIVITY SERIES
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REFERENCE

- Wagon or winter road
- Trail or portage
- Surveyed line
- Village or settlement
- Post office
- Building or cabin
- R.C.M.P. post
- Horizontal control point
- Astronomical position
- Spot elevation (in feet)

0 5 10 15 20 25 30 Miles

BULMER LAKE
NORTHWEST TERRITORIES
DISTRICT OF MACKENZIE
Scale 1:250,000
1 Inch to 4 Miles Approximately

0 5 10 15 20 25 30 Kilometers

REFERENCE

- Stream intermittent or dry
- Rapids, falls
- Marsh or swamp
- Sand, gravel or mud
- Contours
- Depression
- Esker
- Washed areas

