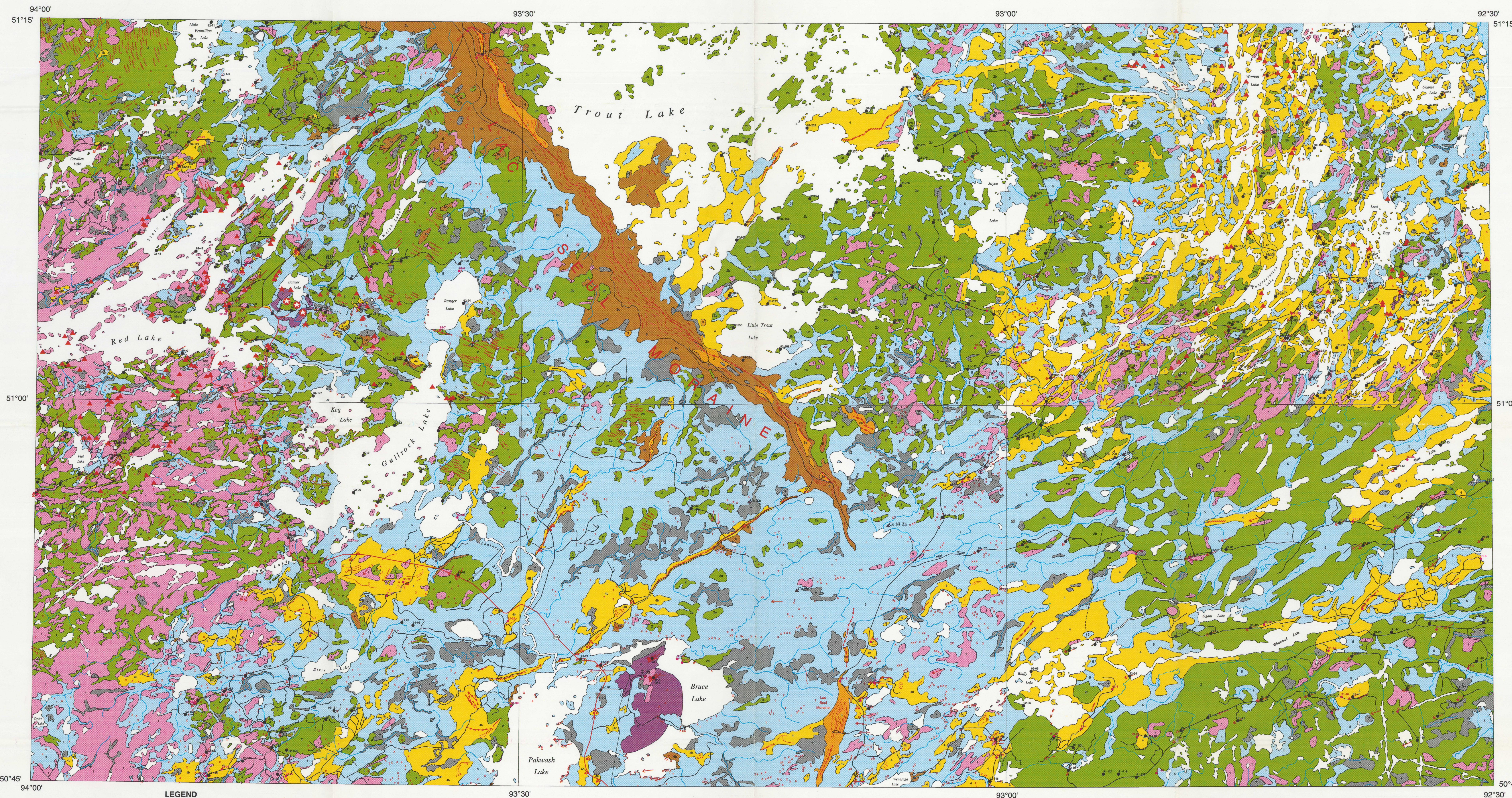


QUATERNARY GEOLOGY OF THE RED LAKE - CONFEDERATION LAKE AREA



LEGEND

QUATERNARY

HOLOCENE

- 8 MINE TAILINGS: fine to very fine sand; 1-15 m thick
- 7 ORGANIC DEPOSITS: peat and muck; 1-4 m thick; muskegs, fens string bogs; commonly overlies glaciolacustrine mud

LATE WISCONSINAN

GLACIOLACUSTRINE DEPOSITS: sediments deposited into glacial Lake Agassiz predominantly as underflows and as littoral deposits

- 6 Shoreline and shallow water deposits: sand, gravel, silt; 1-3 m thick; small beach ridges over outwash deposits; mainly reworked morainic deposits. 6a, gravel and silt; 6b, sand with silty fine sand; 6c, thin sand over clay or till

NONGLACIAL

PROGLACIAL AND GLACIAL

GLACIAL

- 5 Deep water deposits: laminated to varved clay, silt and fine sand; 1-50 m thick; mainly occupies depressions
- 4 Outwash deposits: sand and gravel; 1-5 m thick; mainly subaqueous fan sediment, includes some eskers. 4a, gravelly sand; 4b, sand with minor gravel
- 3 Morainic deposits: rippled sand (thin silt, clay interbeds), gravel, boulders; minor till; 5-15 m thick; end moraines, mainly formed of subaqueous sediment, isolated subaqueous fans, and adjacent eskers; 3a, very bouldery surface

GLACIAL DEPOSITS: sediment deposited directly from glacial ice

- 2 Till: gravely to bouldery, sand to sandy-silt till; noncalcareous; 1-5 m thick; blankets most bedrock; minor bedrock included; 2a, till less than 1 m thick; 2b, till with thin cover of sand, clay, or modified sediment
- 1 Drift and bedrock: Rock dominated terrain (25-100% outcrop); ice and water eroded Archean granitic, metavolcanic, and metasedimentary rocks; thin till and stratified deposits, 1-3 m thick in depressions

SYMBOLS

- Geological boundary, approximate
- Small bedrock outcrop (not shown for unit 1)
- Small outcrop of till
- Glacial striation (ice flow direction inferred)
- S-form (direction of meltwater flow shown)
- Streamlined form (incl. drumlinoid features)
- Moraine ridge
- Transverse moraine ridge
- Esker (direction of flow inferred)
- Advanced shoreline feature
- Eolian dune
- Sand or gravel pit
- Till sample site
- Sand sample site
- Paved road
- Gravel or seasonal road
- Trail
- MINERAL OCCURRENCES
- Gold
- Producer
- Past Producer
- Occurrence
- BASE METALS
- Past Producer
- Occurrence

NOTE TO USERS:

This map is a product of a Northern Ontario Development Agreement (NODA) project completed by the Geological Survey of Canada (GSC) in the Red Lake area, District of Kenora. The principal objectives of this project were to develop a regional till geochemical profile of the area and to complete a regional 1:100 000 scale map of the Quaternary geology. This 1:100 000 map is a compilation of three existing Ontario Geological Survey (OGS) maps and new mapping completed in the NODA project. The polygon detail on the three previous 1:50 000 OGS maps has been generalized to conform to a 1:100 000 publication scale. Organic deposits overlain on units 6 may be under-represented on this map particularly on the Pakwash sheet. The distribution of mineral occurrences has been edited for clarity; in some areas one symbol may represent a number of occurrences. Users requiring higher resolution than the 1:100 000 scale are referred to the original publications (Prest, 1981, 1982; Ford, 1982). The project area consists of six 1:50 000 NTS topographic sheets (see sources of information), of which airphoto interpretation was completed for three: Little Trout Lake (52N03), Confederation Lake (52N04), and Buffy Lake (52N04). No systematic field verification has been completed of these maps, rather the interpretation was constructed on the basis of information collected during the geochemical sampling program (Sharp, 1990; Sharp and Russell, in press). In general this involved less than four weeks work on each of the map sheets by a two-member field party. The remaining three maps were completed by the OGS at 1:50 000 scale: Red Lake (52N05) (Prest, 1981), Madsen (52N07) (Prest, 1982), and Pakwash (52N14) (Ford, 1982). The mapping of these individual sheets was completed by a four-person field crew with a 3 month field season. This allowed for more detailed ground mapping than in the three areas completed by this program (52N03, 52N04, 52N05). For both series of maps the map unit assignment is based on the sediment texture of the upper one metre of unconsolidated sediment. The use of symbols for bedrock and till occurrences on some maps, occurs as a result of elimination of small polygons from the 1:50 000 scale maps. The polygon boundaries represented on this map were derived from 1:50 000 scale mapping and may conflict slightly with the 1:250 000 scale digital base used for georeferencing.

Sources of Information

- Denecker, M.E., Russell, P.S., Williams, H., Andrew, A.J., Hagen, R. and Arkison, B.T. 1991. Organic soil and microbiological Red Lake geoscientific map. Ontario Geological Survey, Preliminary Map P3107, scale 1:50 000.
- Prest, M.L. 1981. Quaternary geology of the Red Lake area, Kenora District (Part 1a). Ontario Geological Survey, map P-2372, 1:50 000 scale.
- Prest, M.L. and Arkison, B.T. 1982. Cold climates, processes and peat producing sites of the Red Lake-Confederation Lake geoscientific belt. Ontario Geological Survey Open Report 8015.
- Prest, V.K. 1981. Quaternary geology of the Red Lake area, Kenora District (Part 1a). Ontario Geological Survey, map P-2348, 1:50 000 scale.
- Prest, V.K. 1982. Quaternary geology of the Madsen area, Kenora District (Part 1a). Ontario Geological Survey, map P-2349, 1:50 000 scale.
- Sharp, D.R. 1990. Draft compilation of till and sand samples from the Red Lake / Madsen Lake area, District of Kenora, Ontario. Geological Survey of Canada Open File 2383.
- Sharp, D.R. and Russell, H.A.J. 1996. Draft compilation of till and sand samples from the Red Lake / Confederation Lake area, District of Red Lake, northern Ontario. Geological Survey of Canada Open File 2388.

Acknowledgements

Field assistance during the sampling program was capably provided by Trevor Shaw, Dennis Strickland and Robert Armstrong.

Scale 1:100 000 Échelle
Miles 1 0 1 2 3 Miles
Mètres 1000 0 2000 4000 Mètres
UNIVERSAL TRANSVERSE MERCATOR PROJECTION
ZONE 15 NAD 1987

Recommended Citation:
Sharp, D.R. and Russell, H.A.J.
1996. Quaternary Geology of the Red Lake / Confederation Lake Area. Geological Survey of Canada, Open File 2876.

OPEN FILE
DOCUMENT PUBLIC
2876
GEOLOGICAL SURVEY OF CANADA
COMMISSION GÉOLOGIQUE DU CANADA
1996

SHEET 1 OF 1

