

LEGEND

Coloured legend blocks indicate map units which appear on this map

QUATERNARY

HOLOCENE - POST-LAST GLACIATION

NONGLACIAL ENVIRONMENT

ORGANIC DEPOSITS: peat, muck, 1 to 5 m thick; poorly drained ground forming swamps, marshes, bogs, and fens; occurs in embayed basins or over extensive areas underlain by fine-grained, poorly drained glacioclastic sediments

7b Fen, swamp, or marsh: wet sedge peat or organic muck, minor moss peat, forms flat, waterlogged, grassy surfaces with few trees, includes areas with visible surface water

7a Bog peat: decomposed sphagnum moss and woody peat; occurs as raised irregular surfaces with an open to closed tree cover; thermokarst depressions and ponds, talus and rock outcrops are present in the southern portion of the Denare Beach-Schist Lake map area, contains some areas of fen peat

6 **ALLUVIAL DEPOSITS:** silt, sand, and gravel, 1 to 5 m thick; deposited by streams as modern floodplains and deltas; may include small remnants of Holocene degradational terraces

WISCONSINAN - LAST GLACIATION

PROGLACIAL ENVIRONMENT

GLACIAL LAKE DEPOSITS: massive to stratified clay, silt, sand, and gravel; thickness ranges from veneer to tens of metres; deposited in proglacial, littoral, and deep water environments of glacial Lake Agassiz

5 Nearshore sediments: generally horizontally bedded sand and, in places, gravel, well sorted, 1 to 5 m thick; occurs primarily as a drape or blanket of sand grading basinward into finer grained sediments; includes bars, beaches, and spits

4b Offshore sediments: silt or clay, minor sand; laminated to massive, commonly weakly calcareous, thickness unknown but may exceed 10 m in places; deposits form flat, poorly drained plains generally mantled by peat

4a Offshore sediment veneer: thin or discontinuous cover of silt and clay, sand locally, thin (< 1 m), although thicker accumulations may occur in depressions; surface expression of deposits mimics underlying bedrock or glacial topography

GLACIAL ENVIRONMENT

GLACIOFLUVIAL DEPOSITS: interstratified sand, gravel, and diamicton, minor silt; beds range from poorly to well sorted up to 30 m thick; deposited in contact with or near the glacier by meltwater flow

3c Subaqueous outwash deposits: thick sequences of stratified sand and gravel (> 20 m thick); may be capped or interbedded with diamicton flows or flow sequences; deposit commonly lies upward and laterally in the down-current direction; upper surface of deposit may contain kettles commonly filled with fine grained glacioclastic sediment and/or be dissected by channel cut and fill sequences; may occur in valleys or as terraces and outwash plains within or adjacent to subglacially formed meltwater channels; may show braided channels; unit is deposited below glacial lake level at the ice margin by subglacial meltwater streams flowing into Lake Agassiz; may form ice contact deltas and recessional, end, or interdelta moraines

3b Ice-contact deposits: stratified sand and gravel and minor diamicton, bedding commonly dips steeply and may exhibit contortion or folding; generally forms sinusuous to straight ridges or irregular hummocks; unit deposited by subglacial, englacial, or supraglacial streams flowing in ice tunnels or ice-walled channels, or from material ponded in a depression on the surface of stagnant ice; includes eskers, kames, crevasse wings, lee-side deposits

3a Sand and gravel of undetermined origin: poorly sorted; generally poorly stratified to unstratified, 1 to 10 m thick

GLACIAL DEPOSITS: fill and related sediments; comprises sandy to silty diamicton deposited at the margin or beneath glaciers; forms a thin veneer or deposits up to several metres thick; composition and texture variable depending on provenance

Sandy fill: grey to grey-brown sandy diamicton (average 50% sand, 34% silt, 7% clay), commonly stoney at surface; noncalcareous to slightly calcareous; massive to poorly stratified; derived from erosion of Precambrian bedrock, clasts predominantly sand and lithologies

2b Sandy fill blanket: forms as a continuous cover 1 to several metres thick; generally occurs on highlands or on down-ice side of bedrock highs; a pebbly boulder lag or a thin glacioclastic cover (< 30 cm) may be present on surface

2a Sandy fill veneer: forms a discontinuous veneer interspersed with rock outcrop; generally less than 1 m thick although thicker accumulations may occur in bedrock depressions; surface morphology reflects underlying bedrock topography; thin accumulations may occur as poorly sorted gravel within depressions on the bedrock surface due to reworking by nearshore glacioclastic processes

Silty fill: light grey to grey brown silty diamicton (average 53% sand, 34% silt, 13% clay); calcareous; derived primarily from erosion of Paleozoic clastic and domotic rocks; contains varying proportions of Shield and Paleozoic-derived clasts

1b Silty fill blanket: description similar to 2b

1a Silty fill veneer: description similar to 2a

PRE-QUATERNARY

BEDROCK: Rock outcrop or rock thinly covered (< 50 cm) by surficial materials

R2 Paleozoic sedimentary rocks: consists primarily of Ordovician dolostone and domotic limestone of the Red River Formation; outcrops are generally flat lying; surfaces may be pitted and frost shattered with local preservation of glacially polished and striated surfaces; an escarpment rising (> 20 m) above the Precambrian terrane commonly marks the Shield margin

R1 Precambrian igneous and metamorphic rocks: consists of felsic and mafic igneous and metasedimentary rocks and associated intrusives of the Flin Flin greenstone belt and the high-grade metamorphic equivalents to these rocks; schists and gneisses, comprising the Kibikyan terrane, rolling topography with low to moderate relief; glacially eroded outcrops commonly form rocky moutonnées; surfaces may be striated and grooved; in Shield terrane outcrop surfaces are wave-washed as a result of the lowering of glacial lake levels

Geological boundary

Mine tailings

Palta, peat plateau

Thermokarst depression (small, large)

Beach ridge, wave cut terrace, strandline

Abandoned channel (large, small)

Delta (ice contact)

Kettle (small, large)

Esker (direction known)

Crevasse wing

Drumlin/ridging

Roche moutonnée

Striae (ice flow direction known, unknown, known and poorly defined, unknown and poorly defined)

Crossed striae (1 = oldest)

Rock escarpment

Bedrock outcrop

Quarry or mine (active, abandoned)

Gravel and/or sand pit (active, abandoned)

Observation site

Geology by J.E. Campbell and P.J. Henderson, 1992-94, with field assistance by C. Zdanowicz, 1993

Digital cartography by T.D. West, Geoscience Information Division

Contribution to Canada-Saskatchewan Partnership Agreement on Mineral Development (1990-1995), a subsidiary agreement under the Canada-Saskatchewan Economic and Regional Development Agreement

Contribution to the NATMAP Shield Margin Project

Any revisions or additional geological information known to the user would be welcomed by the Geological Survey of Canada

MAP 1919A

SURFICIAL GEOLOGY

DENARE BEACH-SCHIST LAKE

SASKATCHEWAN-MANITOBA

Scale 1:50 000 - Échelle 1/50 000

Kilometres 0 2 4 Kilomètres

Transverse Mercator Projection
CMT 102°10' N, Scale Factor 0.9999
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Projection transverse de Mercator
M.C. 102°10' N, facteur d'échelle 0.9999
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Magnetic declination 1997, 10°51' E, decreasing 8.1' annually

Elevations in feet above mean sea level

Contour interval of 25 feet west of 102°, and 50 feet east of 102°

Digital base map: from data compiled by Geomatics Canada, modified by the Geoscience Information Division

Copies of the topographical editions covering this map area may be obtained from the Canada Map Office, Natural Resources Canada, Ottawa, Ontario, K1A 0G9

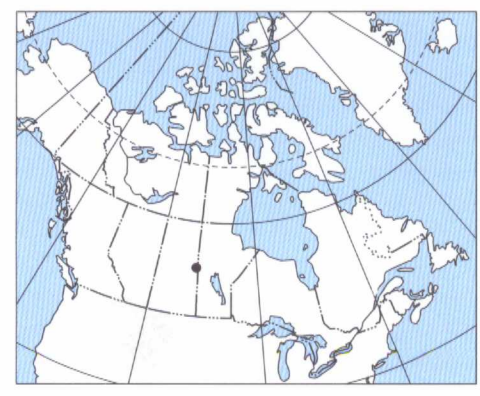
NATIONAL TOPOGRAPHIC DATUM REFERENCE

63 L15	63 L16	63 K13
63 L10	63 L9 1919A	63 K12
63 L7	63 L8	63 K5

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LOCATION MAP

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