GEOLOGICAL SURVEY OF CANADA COMMISSION GÉOLOGIQUE DU CANADA

DEPARTMENT OF ENERGY, MINES AND RESOURCES
MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES RESSOURCES

LEGEND

SURFICIAL MATERIALS AND TERRAIN FEATURES

QUATERNARY

POST-CHAMPLAIN SEA DEPOSITS

14 — ORGANIC DEPOSITS: mainly muck and peat in bogs, fens, swamps and poorly drained areas.

12 13 — MODERN ALLUVIAL DEPOSITS: stratified sand, silty sand, silt, minor gravel and disseminated organic matter;
13. Alluvium on floodplain of present rivers.
12. Alluvium of fan deposits consisting mainly of silt, clay and sand; 12a, consisting of gravel and sand.

10 11 — RIVER CHANNEL DEPOSITS:
11. Silt and silty clay; often including lenses and bars of sand; generally massive and calcareous; largely consists of unit 6 materials which have been stripped of the variable upper unit but is known to include pockets of non-marine silt.
10. Medium grained grey to buff stratified sand with some silt; often in form of bars, spits or terraces within abandoned channels; 10a, reworked by wind.

MARINE AND ESTUARINE DEPOSITS (CHAMPLAIN SEA SEDIMENTS)

9 — SHALLOW MARINE and/or ESTUARY DEPOSITS: medium to fine, stratified, buff to grey sand; unfossiliferous; lies outside abandoned channels; 9a, reworked by wind.

8 — BEACH DEPOSITS: gravel, coarse sand, cobbles and boulders; fossiliferous; derived mainly from glacial or glaciofluvial deposits; includes bars, spits, beach ridges, boulder beaches and boulder pavements; 8a, slabs and shingles of bedrock where beach developed directly on outcrops of Paleozoic rocks.

6 7 — MARINE BOTTOM DEPOSITS:
7. Well sorted, fine-grained, massive, buff to grey sand; calcareous, fossiliferous; found outside channels; 7a, commonly modified by wind.
6. Blue grey clay, silty clay and silt; calcareous and fossiliferous; locally overlain by thin sands; north and east of Ottawa upper part consists of laminated reddish brown and greenish grey, non-fossiliferous and only slightly calcareous silt and clay. Upper parts of this deposit frequently consist of mottled clay or silty clay which may be due to reworking during falling sea level or to *in situ* physical and chemical changes.

GLACIAL DEPOSITS

4 5 — FLUVIOGLACIAL (ice-contact and ice-frontal) DEPOSITS:
gravel and sand, poorly to well sorted and bedded, mainly coarse to medium-grained, with numerous cobbles, boulders and lenses of till;
5. Capped by marine beach deposits; marine reworked material consists of fossiliferous well sorted gravel, sand and boulders.
4. Unmodified; includes outwash plains and fans, kame terraces, kames and eskers.

1 2 3 — GLACIAL TILL: compact sandy to silty till; grey to brown; calcareous to siliceous, mainly basal or lodgement; discontinuous thin gravel, sand and boulder lag deposits where surface modified by marine and fluvial action;
3. Hummocky to rolling – local relief 3 to 15 m (10 to 45 ft.);
3a, modified by marine or fluvial action.
2. Drumlins modified by marine or fluvial action.
1. Till plain-local relief <5 m (<15 ft.); 1a, modified by marine or fluvial action.

BEDROCK AREAS

PALEOZOIC

Limestone, dolomite, sandstone and locally shale: mainly bare, tabular outcrops; includes areas thinly veneered by Quaternary unconsolidated sediments up to 1 m (3') thick.

PRECAMBRIAN

Intrusive and metamorphic rocks: mainly bare, hummocky, rolling or hilly rock knob upland; includes areas thinly veneered by Quaternary unconsolidated sediments up to 1 m (3') thick.

Former strandline positions of Champlain Sea indicated by flights of abandoned marine beaches.

Crest lines of sand dunes.

Escarpment in unconsolidated materials: mainly abandoned.

Escarpment in bedrock.

Minor stream channel in abandoned deltaic, estuarine and river deposits.

Head scarp of landslide.

Landslide areas with crest lines of tilted or slumped blocks of marine clay and sand; includes zones of both material removal and redeposition.

Areas of numerous small closed depressions in unconsolidated surface materials indicating possible presence of underlying limestone karst sinkhole topography.

Abandoned channels.

Gullies, ravines.

F — Fossil locality; F - marine species present; f - freshwater species present.

Pits in unconsolidated materials; mainly in gravel and sand but some in clay and till.

Bedrock quarry.

10,000±90 GSC-1968 — Locality of specimen, dated by radiocarbon method.

GEOLOGY BY S.H. RICHARD, 1970-75

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

OPEN FILE
DOSSIER PUBLIC
360
SEPT 1976
GEOLOGICAL SURVEY
COMMISSION GÉOLOGIQUE
OTTAWA

Produced, 1975, by the SURVEYS AND MAPPING BRANCH, DEPARTMENT OF ENERGY, MINES AND RESOURCES, from detailed maps. Information current as of 1975. Printed 1973.

Copies may be obtained from the Canada Map Office, Department of Energy, Mines and Resources, Ottawa, or your nearest map dealer.

Crown Copyrights reserved

Roads:
hard surface, all weather ..... pavée, toute saison ..... dual highway, more than 2 lanes; plus de 2 voies; 2 lanes; less than 2 lanes; moins de 2 voies
hard surface, all weather ..... pavée, toute saison ..... 2 lanes; 2 voies; 3 lanes or more; 3 voies ou plus
loose or stabilized surface, all weather ..... gravier aggloméré, toute saison ..... less than 2 lanes; moins de 2 voies
loose surface, dry weather and ..... de gravier, temps sec et

Routes:

MORRISBURG
ONTARIO - NEW YORK

Scale 1:50,000 Échelle

Milles 1 0 1 2 3 Miles
Mètres 1000 0 1000 2000 3000 4000 Mètres

Some names on this map are not yet official. Corrections or additions are invited by the Surveys and Mapping Branch.

CONTOUR INTERVAL 25 FEET
U.S.A. PORTION 10 FEET
Elevations in Feet above Mean Sea Level

Certains noms inscrits sur cette carte ne sont pas encore officiels. La Direction des levés et de la cartographie sourcil gré au public de lui signaler corrections et additions.

Établie en 1975, par la DIRECTION DES LEVÉS ET DE LA CARTOGRAPHIE, MINISTÈRE DE L'ÉNERGIE, DES MINES ET DES RESSOURCES, d'après des cartes détaillées. Renseignements à jour en 1975. Imprimée en 1973.

Ces cartes sont en vente au Bureau des Cartes du Canada, ministère de l'Énergie, des Mines et des Ressources, Ottawa, ou chez le vendeur le plus près.

© Canada 1973, tous droits réservés.

TABLEAU D'ASSEMBLAGE DU SYSTÈME NATIONAL DE RÉFÉRENCE CARTOGRAPHIQUE

76°00' 45°15'	31 G/4	31 G/3	32 A/1
	31 B/13	MORRISBURG 31 B/14	31 B/11
	31 B/12	31 B/11	31 B/10
44°30' 76°00'			

INDEX TO ADJOINING MAPS OF THE NATIONAL TOPOGRAPHIC SYSTEM

MORRISBURG
31 B/14
EDITION 6

This document was produced by scanning the original publication.

Ce document est le produit d'une numérisation par balayage de la publication originale.