NATIONAL TOPOGRAPHIC SYSTEM 1:50,000 **CANADA** SECOND EDITION

Refer to this Map as : 31 F/9 EAST EDITION 2 ASE SERIES A 761

SHEET 31 F/9 EAST

SURFICIAL GEOLOGY, QUYON, ONT. AND QUE. 31F/9 E½

SCALE 1:50,000

LEGEND

SURFICIAL DEPOSITS AND TERRAIN FEATURES

QUATERNARY

POSTGLACIAL - 10,000 years BP to present

13 — Organic deposits: muck and peat; mainly peat bogs and poorly drained areas supporting fen, swamp, marsh and meadow vegetation

12 — Alluvial deposits: stratified sand, silty sand, silt and silty clay; includes fluvial deposits, sand bars and spitsof modern floodplain of present streams

11 — Fan deposits: stratified sand, silty sand, silt and silty clay; alluvial deposits of small tributary streams from the rock knob upland of the Precambrian basement laid down along the foot of the Eardley escarpment on the abandoned clay floor of the Champlain Sea following emergence

10 — Landslide deposits: marine clay, silty clay, silt and marine, deltaic, estuarine and fluvial sand; aprons and fans of hummocky topography underlain by tilted or slumped blocks of clay with or without a thin capping of fine sand; includes deposits spread out over the floors and terraces of the abandoned Ottawa River channels and along the valley sides of present day streams; resulting from slope failures along the abandoned channel and terrace bluffs or along the active present day valley bluffs; 10a, modified or bevelled by fluvial erosion of the Ottawa River

9 — Aeolian deposits: uniform, fine-grained, buff sand; derived from marine, deltaic, estuarine or river channel sands laid down in the Champlain Sea and in the fluvial channels and terraces of the early Ottawa River that were subsequently reworked and blown by wind into dunes; this unit is used where the flat surface of the original deposit has been completely transformed into hummocky topography

8 — Estuarine and river channel and terrace deposits: stratified, buff, medium sand, unfossiliferous; fluvial deposits on the floors of former estuarine and river channels and terraces of the early Ottawa River; locally the upper part of this sand has been reworked by wind into low dunes; the estuarine environment progressively replaced the marine environment and was itself replaced by the river environment as the Champlain [illegible]

7 — Eroded and/or modified marine deposits: mainly marine clay as described in unit 4, but locally overlain by a thin layer of alluvial silt and silty clay; estuarine and river channel floors and terraces of the ancestral Ottawa River cut in marine clay following emergence of the map-area above the level of the Champlain Sea; the upper part of these sediments is unfossiliferous and somewhat less calcareous and consists of laminated red and greenish grey clay

MARINE-CHAMPLAIN SEA 12,800 to 10,000 years BP approx.

6 — Marine beach deposits: gravel and sand, fossiliferous; derived mainly from the reworking by the Champlain Sea of older glacial or glacio-fluvial deposits; includes abandoned raised beaches, bars, spits, beach ridges, boulder beaches and boulder pavements

5 — Marine sand: uniform, fine-grained, buff to grey sand, fossiliferous; shallow-water facies of off-shore sediments of the Champlain Sea; upper part of this sand is buff and has often been reworked by wind into low dunes; when exposed in fresh cuts below the chemically weathered zone this sand is grey in colour

4 — Marine clay: blue-grey clay, silty clay and silt, calcareous, fossiliferous; deep-water facies of off-shore sediments of the Champlain Sea; the upper part of these sediments is somewhat less calcareous; locally this unit is overlain by a thin layer of sand

MARINE-GLACIAL - 12,800 to 10,000 and 12,800 years BP and/or older

3 — Marine beach deposits overlying ice-contact and/or ice-frontal outwash deposits: gravel and sand, fossiliferous, underlain by unfossiliferous deposits of well sorted and bedded gravels, cobbles and sands; in some places these contain boulder barricades or ramparts and local lenses or pockets of till

GLACIAL-LATE OR CLASSICAL WISCONSIN - 12,800 years BP and/or older

2 — Glacio-fluvial ice-contact and ice-frontal outwash deposits: gravel and sand, well sorted and bedded, mainly coarse to medium-grained, with numerous cobbles and boulders, buff to grey, unfossiliferous; includes outwash plains, outwash fans, valley trains, kame terraces, kames and esker ridges deposited by fluvio-glacial meltwaters during deglaciation; either not submerged or little modified by postglacial marine inundation

1 — Bevelled or modified till deposits: compact, grey to brown when leached and oxidized, siliceous, sandy glacial till; topography flat to gently rolling with surface materials reworked and winnowed by the marine waters of the Champlain Sea and by the estuarine and fluvial waters of the ancestral Ottawa River; includes bouldery, washed till on slopes and on abandoned channel floors which grades downwards into unmodified till; 1a, small unmodified till deposits lying above an elevation of 198m. (650'), the approximate limit of submergence in this area north of the Ottawa River

BEDROCK AREAS

PALEOZOIC

R — Limestone, dolomite and/or sandstone: mainly bare limestone, dolomite and sandstone - and locally shale-bedrock; includes areas thinly veneered by Quaternary unconsolidated sediments up to 1m.(3') thick, most commonly consisting of washed and reworked glacial till and limestone, dolomite or sandstone slabs and shingles; limestone, dolomite and sandstone normally occur as tabular outcrops

PRECAMBRIAN

+R+ — Intrusive and metamorphic rocks: mainly bare, hummocky or rolling areas composed of crystalline intrusive and metamorphic rocks of Precambrian age; includes areas thinly veneered by Quaternary unconsolidated sediments up to 1m. (3') thick; below an elevation of 198m. (650') this cover commonly consists of washed and reworked glacial till which in many places has been reduced to a sprinkle of glacial erratics resting directly on the bedrock

..... Geological boundary

..... Bedrock scarps

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

..... Estuarine and river channel bluffs cut in marine clay

..... Fluvial channel scars showing flow direction in abandoned estuarine and river channels and terraces

..... Head scarp of landslide

..... Ridge crests of tilted or slumped blocks of clay and sand in landslide areas

..... Depositional pattern of alluvial fan

..... Abandoned postglacial river channels; valley walls, gullies and present day drainage ways; includes some man-made field and road side drainage ditches

Ⓕ ..... Fossil locality

× ..... Gravel or sand pit

10,900±180 GSC-1963 ..... Locality of specimen, dated in years by radiocarbon method

GEOLOGY BY S.H. RICHARD 1972, 73

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

Surveyed, compiled, drawn and printed by the ARMY SURVEY ESTABLISHMENT, R.C.E., 1953-59.

QUYON

QUEBEC - ONTARIO

SCALE 1:50,000

1.25 Inches to 1 Mile approximately

1 ½ 0 1 2 3 Miles

1000 500 0 1000 2000 3000 4000 Metres

1000 500 0 1000 2000 3000 4000 Yards

CONTOUR INTERVAL 50 FEET
Elevations in Feet above Mean Sea Level

Transverse Mercator Projection
North American Datum 1927

Copies may be obtained from the Map Distribution Office, Dept. of Mines and Technical Surveys, Ottawa.

REFERENCE

Boundaries: international, with monument; provincial; county or district; township or parish; township or parish, unsurveyed; city or town; park, reserve, etc.

Horizontal control point, with elevation △582

Bench mark, with elevation BM 1025

Spot elevation; precise, approximate. .4582 ±757

Historical site; Cemetery

Mine or open cut; Quarry

Sand or gravel pit

Roads: more than 2 lanes; Dual; 2 lanes; Route No.; 2 lanes or more; less than 2 lanes; Station; Stop; Siding; multiple track; single track; abandoned or under construction; underpass, overpass; Tunnel; Drawbridge; Power line; Telephone line

REFERENCE

House; Building; School; Church; Church with spire; Post Office; Radio Station; Tower; Chimney; Well; Tank; Cutting; Embankment; Cliff; Contours: elevation, depression, approximate

Foreshore flats; Lighthouse; Wharf or pier; Breakwater; Levee or dyke; Rocky reef; Swamp or marsh; Inundated land, seasonal; Intermittent lake, stream; Indefinite shoreline, stream; Rapids, large, small; Bridge; Ditch or flume; Snowfield; Glacier; Wooded area; unclassified, scrub; Vineyard; Orchard

INDEX TO ADJOINING SHEETS

76°30'		75°30'
31F/15 FORT COULONGE	31F/16 KAZABAZUA	31G/13 LOW
31F/10 COBDEN	31F/9 QUYON	31G/12 WAKEFIELD
31F/7 RENFREW	31F/8 ARNPRIOR	31G/5 OTTAWA

45°45' 45°15'

QUYON
31 F/9 EAST
EDITION 2 ASE