

GEOLOGICAL SURVEY OF CANADA

COMMISSION GÉOLOGIQUE DU CANADA

DEPARTMENT OF ENERGY, MINES AND RESOURCES

MINISTÈRE DE L'ÉNERGIE DES MINES ET DES RESSOURCES

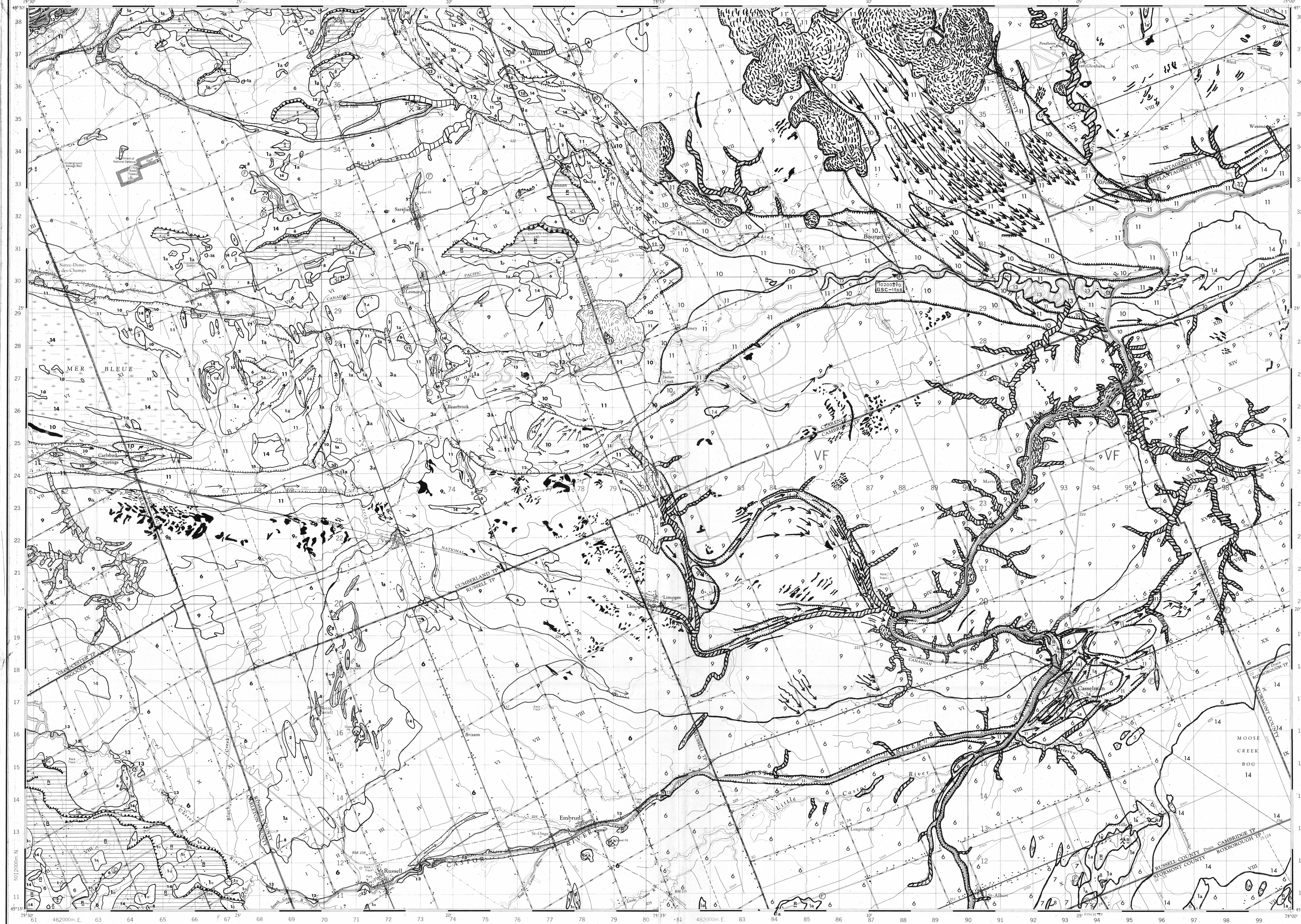
LEGEND

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;
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 ESTUARINE 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 glacioluvial 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 FLUVIOLACIAL (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
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.
Abandoned channels.
Gullies, ravines.
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.
Locality of specimen, dated by radiocarbon method.

GEOLOGY BY S.H. RICHARD, 1970-75 (EAST HALF) N.R. GADD, 1973 (EAST HALF)

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



RUSSELL ONTARIO
SCALE 1:50,000 ÉCHELLE
Includes legend for symbols (Building, Stone, Church, etc.), scale bars in meters and kilometers, and contact information for the Geological Survey of Canada.

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