

MESOZOIC

TRIASSIC  
ANNAPOLIS FORMATION (Wolfville Sandstone member):  
red conglomerate, sandstone; minor red shale

CARBONIFEROUS  
MISSISSIPPIAN? OR PENNSYLVANIAN  
SCOTCH VILLAGE FORMATION: sandstone

MISSISSIPPIAN  
WINDSOR GROUP (2-5)  
Red shale, gypsum, anhydrite, limestone

PEMBROKE FORMATION:  
limestone-conglomerate, limestone;  
minor sandstone, shale

MACUMBER FORMATION: bedded  
arenaceous limestone

HORTON GROUP  
Grey and red shale, sandstone; arkose

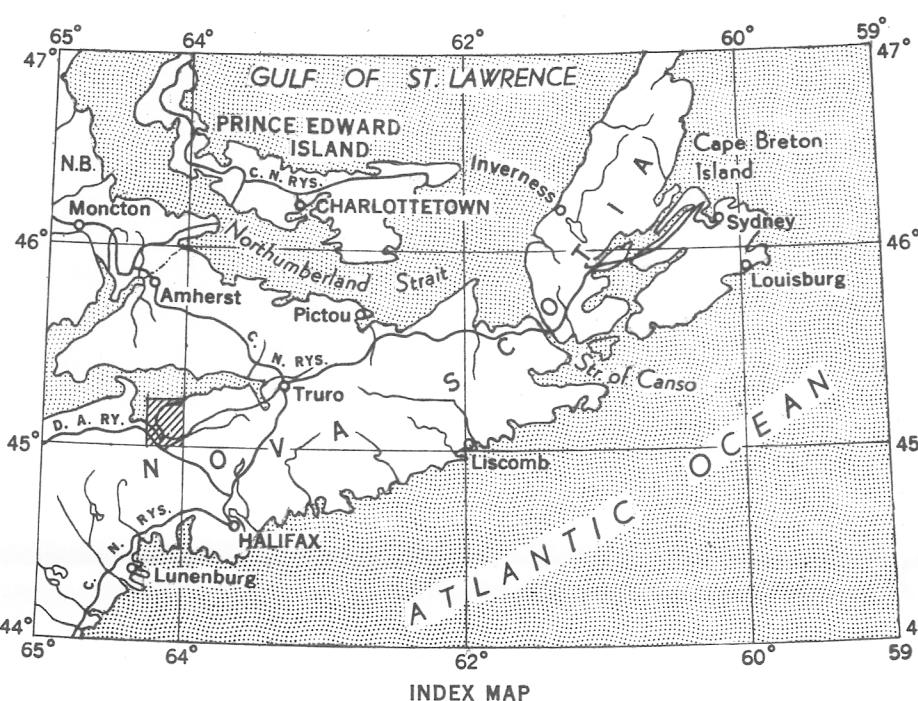
Undivided Windsor rocks:  
red shale, gypsum, anhydrite,  
limestone; minor limestone-  
conglomerate, bedded  
arenaceous limestone

Rock outcrop (in addition to those indicated by bedding symbols) ..... X  
Bedding (horizontal, inclined, overturned) ..... +  
Fault (defined, approximate, assumed) ..... ~~~~~  
Fault (solid circle indicates downthrow side) ..... ~~~~~  
Fossil locality ..... (O)  
Gypsum quarry ..... G  
Sandstone quarry ..... S.S.  
Karst topography ..... S.H.  
Sink-hole ..... S.H.  
Abandoned mine ..... X

Geology by D. G. Crosby, 1940, 1950

Main highway .....  
Secondary road .....  
Road not well travelled .....  
Trail .....  
County boundary .....  
Stream (position approximate) .....  
Marsh .....  
Height in feet above mean sea-level ..... 65

Approximate magnetic declination, 23° 15' West



#### DESCRIPTIVE NOTES

The area is generally one of low relief in which the relatively competent Horton beds occur at elevations of about 400 feet east of Avon River and about 600 feet west of that estuary. Exposures are rare, and the surface is commonly blanketed with glacial drift, which in places is known to be more than 100 feet thick.

The oldest rocks in the map-area are those of the Horton group (1), a succession of coarse to fine clastic strata of continental origin. They are part of an almost continuous belt extending from a few miles west of the map-area to Cape Breton Island, a distance of some 200 miles. On the north, Horton beds are overlain unconformably by Triassic strata; on the south they are conformably succeeded by the basal formations of the Windsor group (2, 5).

The Macumber formation (2) is readily recognizable as the lowermost Windsor unit in the eastern part of the area, but may be lacking west of Avon River, and at Summerville is about 12 feet thick. The beds are characteristic buff to light grey, well-bedded, arenaceous limestone. They are succeeded in the eastern part of the area by the Pembroke formation (3), mainly of limestone-conglomerate with minor sandstone and shale. This formation was not recognized west of Avon River, and at Summerville is probably represented by 2 feet of limestone breccia.

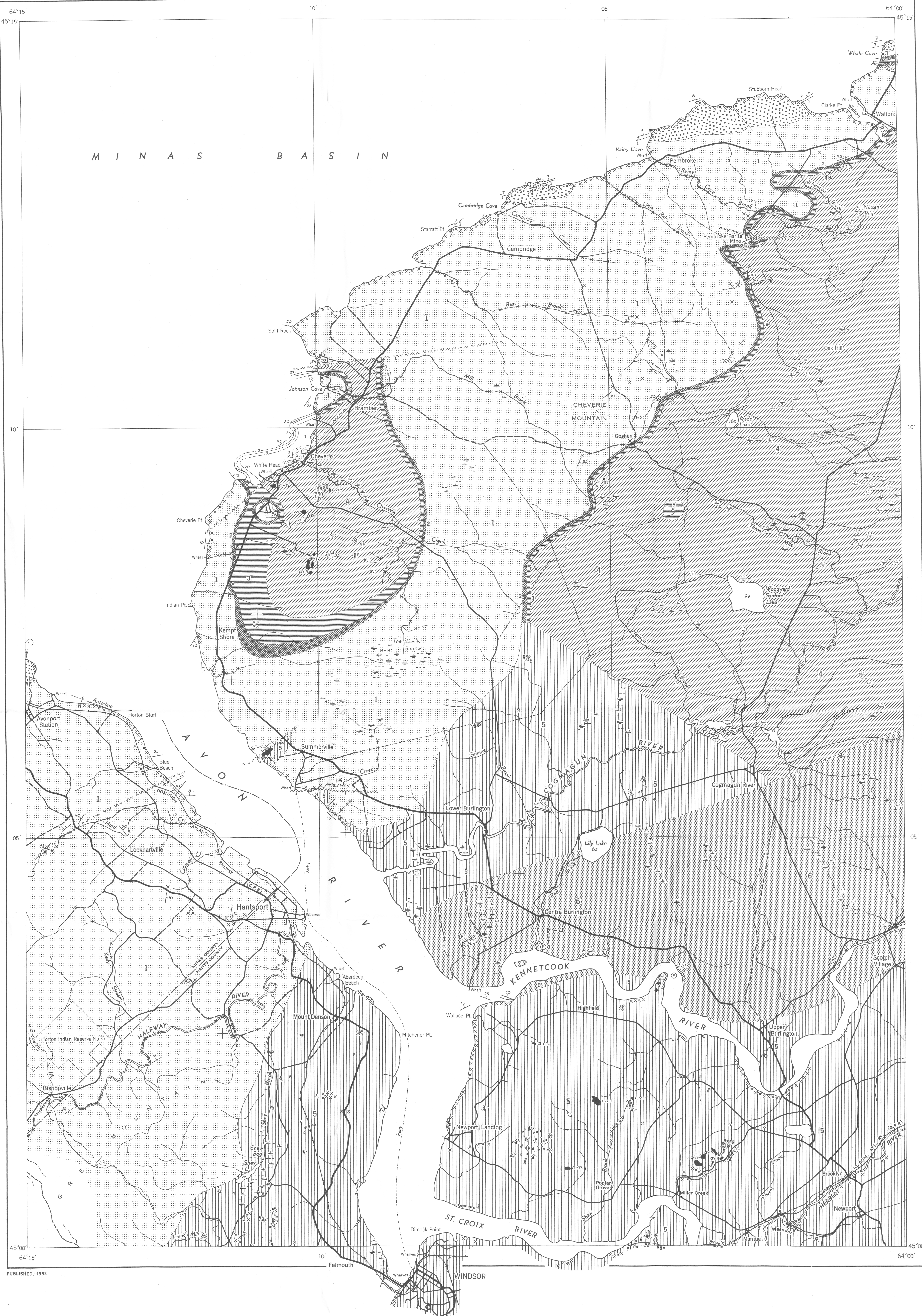
Undivided Windsor rocks (5), and post-Pembroke strata (4) comprise most of the Windsor succession exposed within the area, including gypsum, anhydrite, and shale interbedded with massive limestones.

Overlying the uppermost Windsor Limestone bed, apparently conformably, is a succession of buff weathering sandstones (6) of continental origin, which are probably Pennsylvanian but possibly of Carboniferous (Mississippian) age. The youngest consolidated rocks in the area are coarse clastic beds of the Annapolis formation (7). Assigned to the Triassic System and correlated with the Newark group of the New England states, these rocks are part of a belt exposed along the Bay of Fundy for more than 200 miles and assumed to have been continuous with similar rocks in Connecticut, New York, and New Jersey.

Several abandoned manganese mines and one abandoned iron mine are in the northwestern part of the map-area, at or near the contact of Horton and Windsor beds. The manganese deposits are mainly replacements of the Pembroke formation, but minor occurrences are found as fracture fillings in the Macumber.

The largest developed deposit of barite in Canada is about 2 miles south of the village of Pembroke, and, as in the case of the manganese and iron ores, also occurs on and near the Horton-Windsor contact. The barite replaces limestone and to a lesser degree other rocks, and forms minor fracture fillings. Principal access for the replacing solutions was provided by an east-trending normal fault, which displaces the Horton-Windsor contact some 1,700 feet. Minerals associated with the barite replacement but not everywhere present, are hematite, manganese oxides, galena, sphalerite, pyrite, tetrahedrite-tennantite, and chalcocite.

Gypsum and anhydrite are abundant constituents of the Windsor group, and have been quarried at several localities in the map-area. Much of Nova Scotia's gypsum production is obtained from just beyond the south and north-west borders of this area.



PRELIMINARY MAP 52-18

## WOLFVILLE (EAST HALF) HANTS AND KINGS COUNTIES NOVA SCOTIA

Scale: 1 Inch to 1/2 Mile = 1/31,680  
Miles

