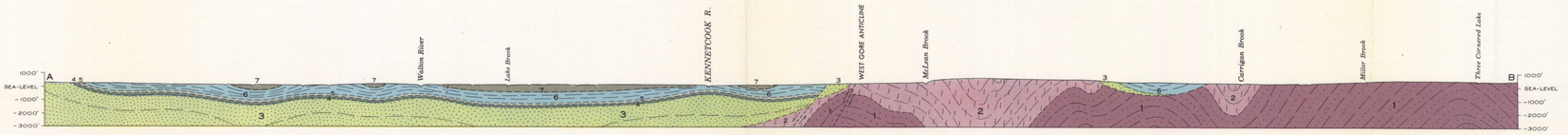
GEOLOGICAL SURVEY OF CANADA
DEPARTMENT OF MINES AND TECHNICAL SURVEYS




Section along line A–B

SHEET II E/4

## LEGEND

**MESOZOIC**

**TRIASSIC**

8 — *ANNAPOLIS FORMATION:* red conglomerate, sandstone

**PALÆOZOIC**

**PENNSYLVANIAN**

RIVERSDALE GROUP

7 — *SCOTCH VILLAGE FORMATION:* grey sandstone, grey and red shale

**MISSISSIPPIAN**

WINDSOR GROUP (4-6)

6 — Red and green shale, limestone, gypsum and anhydrite; minor sandstone, salt. May include undivided 4 and 5

5 — *PEMBROKE FORMATION:* red and grey limestone conglomerate

4 — *MACUMBER FORMATION:* grey, arenaceous, laminated limestone

HORTON GROUP (undivided)

3 — Grey and red sandstone, grit, shale, conglomerate

**PALÆOZOIC (?)**

**ORDOVICIAN (?)**

MEGUMA GROUP (1,2)

2 — *HALIFAX FORMATION:* black and grey slate, argillite; minor quartzite

1 — *GOLDENVILLE FORMATION:* grey and light green quartzite; minor slate

*Observed rock outcrop, area of outcrop*
*Bedding (horizontal, inclined, vertical)*
*Schistosity or cleavage (inclined, vertical)*
*Drag fold (arrow indicates plunge)*
*Fault (defined, approximate, assumed)*
*Fault (solid circle indicates downthrow side)*
*Anticlinal axis (defined, approximate; arrow indicates plunge)*
*Synclinal axis (defined, approximate)*
*Glacial striæ*
*Fossil locality*
*Observed karst topography*
*Quarry (gypsum, gp; limestone, ls; slate, sl; sandstone, ss)*
*Mine (gold, Au; antimony, Sb)*
*Mineral prospect (gold, Au; lead, Pb; manganese, Mn; coal, c)*
*Gold placer deposit*
*Quartz vein*
*Drift or tunnel*
*Spring deposit of yellow ochre*

*Geology by I. M. Stevenson, 1955*

*To accompany G.S.C. Memoir 302 by I.M. Stevenson*

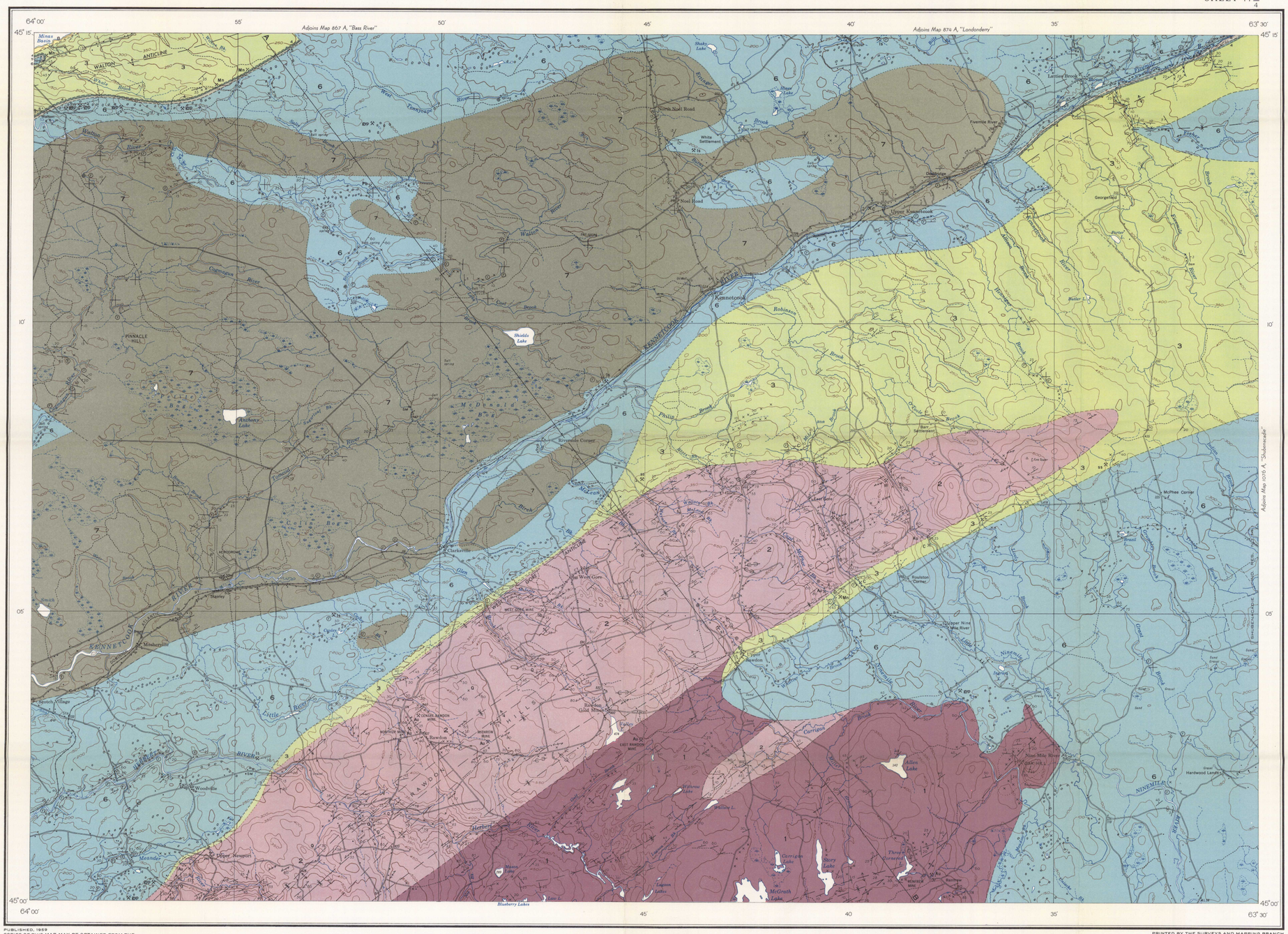
*Cartography by the Geological Survey of Canada, 1959*

*Main highway*
*Road and buildings*
*Trail*
*Church*
*School*
*Post Office*
*Cemetery*
*Saw mill*
*Indian Reserve boundary*
*Intermittent stream*
*Stream (position approximate)*
*Falls*
*Marsh*
*Sand or gravel*
*Contours (interval 50 feet)*
*Height in feet above mean sea-level*

*Base-map compiled by the Topographical Survey, 1949*

*Air photographs covering this map-area may be obtained through the National Air Photographic Library, Topographical Survey, Ottawa, Ontario.*

*Approximate magnetic declination, 23° 10' West*


## DESCRIPTIVE NOTES

Approximately two-thirds of the map-area is underlain by sedimentary rocks of Carboniferous age that characteristically produce a gently rolling topography. In the south half of the area, the more competent slates and quartzites of the Meguma group of Palæozoic age emerge steeply from beneath the Carboniferous strata and present a monotonously even skyline about 350 feet above sea-level. The original rugged relief has been subdued by glaciation and the low-lying areas are covered by a thick mantle of glacial drift.

The Goldenville formation (1) consists of alternating bands of quartzite and slate, with the former predominant. The quartzite is grey to greenish grey, breaks with a conchoidal fracture, and commonly passes gradationally into narrow bands of siliceous, micaceous slate. The Goldenville formation is conformably overlain by bluish black, ferruginous, graphitic slates of the Halifax formation (2), which contains narrow bands of schistose, greyish green quartzite, rarely exceeding a few feet in thickness. Both slates and quartzites contain cubes of pyrite along bedding planes in many places.

Strata of the Meguma group have been folded into parallel, northeast-striking folds. The resulting anticlines are generally domed, and plunge gently to the northeast and southwest. The folds are tightly compressed and the strata commonly dip at angles ranging from 60 to 90 degrees. Schistosity is particularly well developed in the more competent quartzitic beds of the Halifax formation. Numerous quartz veins of both the interbedded and transverse types, a few of which are auriferous, occur in strata of both the Goldenville and Halifax formations. The veins are particularly abundant on the crests and noses of the anticlines.

Meguma beds are overlain unconformably by rocks of the Horton group (3) of early Mississippian age. The Horton rocks are made up of a succession of coarse to fine clastic strata of continental origin. The contact with the older Meguma rocks is well exposed on Glen and McLean Brooks. Horton strata contain abundant plant remains and narrow bands of low-grade coal outcrop at several localities. The Horton beds are normally overlain conformably by basal strata of the marine Windsor group (4-6).

The Macumber formation (4) is easily recognizable in the northwest and northeast corners of the map-area. Although not observed elsewhere it may lie concealed beneath the heavy drift cover. The Pembroke formation (5) conformably overlies the Macumber. The limestone conglomerate part contains fragments of the Macumber formation as well as rounded pebbles of pre-Mississippian rocks.

The Pembroke formation is overlain conformably by a series of limestone, gypsum, anhydrite, and red shale beds (6) whose age relationships are in doubt. Although much of the series is of lower Windsor age, fossils from various localities, both north and south of Kennetcook River, indicate an upper Windsor age for at least part of it.

The uppermost beds of the Windsor group are overlain, apparently conformably, by a succession of buff weathering sandstones and red shales of continental origin, referred to as the Scotch Village formation (7). Poorly preserved plant fossils indicate these rocks to be of probable early Pennsylvanian (Riversdale) age. Excellent exposures appear along Cogmagun and Tomcod Rivers.

Red conglomerate and sandstone of the Annapolis formation (8) of Triassic age outcrop in a narrow band along the shore of Minas Basin, in the extreme northwest corner of the map-area.

All rocks, except those of Triassic age, are considerably faulted. Because of the extensive drift covering, however, surface expression of only a few faults can be recognized. Strata of the Meguma group have been flexed into a series of parallel, tight folds. Rocks of the Horton and Windsor groups are locally much disturbed, but those of the Scotch Village and Annapolis formations are relatively undisturbed.

A deposit of auriferous stibnite occurs about 1 mile southwest of West Gore. The ore is found along fault planes in the Halifax slates, and consists of stibnite with associated pyrite, arsenopyrite, and native antimony and gold. The mine is at present inoperative, and all workings are flooded.

Gold mines formerly operated at Rawdon, Rawdon Gold Mines, and Renfrew are at present inoperative. All workings are caved and/or flooded.

Abandoned manganese mines and prospects are found in the northwest part of the map-area on or near the Horton-Windsor contact.

Crystals of galena, associated with calcite and quartz, were found in poor exposures of impure limestone in the bed of the east branch of Walton River.

A large gypsum quarry is being operated about 1 mile east of Walton. Gypsum and limestone have been quarried at numerous localities.

Gravel for road building and railroad ballast is available in plentiful supply.

Coal has been sought in the vicinity of Upper Kennetcook and East Gore, and numerous pits have been dug in the Horton sediments near the Horton-Meguma contact. Where exposed, coal seams are narrow and of poor grade.

The petroleum possibilities near Kennetcook were recently investigated by a well drilled ½ mile northwest of the village. Some salt was encountered at a depth of about 1,300 feet, but no oil was reported.

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MAP 1075 A

GEOLOGY

# KENNETCOOK

HANTS COUNTY

NOVA SCOTIA

Scale: One Inch to One Mile = $\frac{1}{63{,}360}$

Miles

1 ½ 0 1 2 3