

LEGEND

CARBONIFEROUS

PENNSYLVANIAN

PICTOU GROUP

Red sandstone, shale, grit and conglomerate; some grey sandstone and shale

CUMBERLAND GROUP

Grey and red sandstone, grit and conglomerate; red shale

RIVERSDALE GROUP

BOSS POINT FORMATION: grey and red sandstone, limestone-conglomerate and shale; basal, thin member, arkose

MISSISSIPPIAN

MIDDLEBOROUGH FORMATION: red sandstone and shale; some grey sandstone in upper part and local channel of red conglomerate near base. May include some Canso beds

WINDSOR GROUP

Red shale, gypsum, and probably salt; grey calcareous shale and limestone

Bedding (inclined, vertical, overturned) ..... x x x  
Rock outcrop ..... x  
Fault (assumed) ..... wavy lines  
Gypsum outcrop ..... \*  
Gypsum or salt sinks ..... S  
Celestite (vein) ..... = S  
Hematite and limonite (float) ..... Fe

Geology by W. A. Bell, 1944

DESCRIPTIVE NOTES

Windsor strata (1) are much distorted and very poorly exposed. Calcareous shale on Plaster Creek carries a fauna similar to that of subzone B of the type Windsor sections<sup>1</sup> at Windsor, Nova Scotia. The largest area presumably underlain by Windsor rocks is the low drainage basin of Carter and Purdy Brooks. This area is covered by thick glacial drift, but the general structure of the underlying rocks is inferred to be anticlinal, representing a terminal, expanded part of the Minudie anticline of the Amherst area. A second area of Windsor rocks is drained by Plaster Creek. Its east and west limits are doubtful, owing to lack of outcrops, and the structure may be a fault-block, upraised through strata of the Cumberland group.

The Middleborough formation (2) succeeds the Windsor strata in apparent conformity. Its upper part includes a few interbeds of thin or flaggy, grey sandstone and may represent a part of the Mississippian, Canso group. The lower part of the formation, however, is believed to be a non-marine equivalent of an upper part of the Windsor group. A coarse conglomerate at the base of the formation near East Leicester is inferred to be the localized deposit of a stream that flowed from the old Cobequid upland.

The base of the Boss Point formation (3) is exposed only at the junction of Purdy Brook and Little River. It consists of a light grey to pinkish, arkosic grit, probably about 100 feet thick. This evidently represents the Clairmont formation of the adjoining Oxford map-area. The overlying beds of the formation include a thin band of quartz-pebble conglomerate, but are mainly fine-grained, generally massive, grey sandstones with which are commonly associated lenticular beds of limestone-conglomerate.

The basal beds of the Cumberland group (4), as exposed on Little River west of the Oxford-Mansfield road, are grey, arkosic grit and conglomerate. Overlying beds include much buff weathering, grey sandstone and some grey, conglomeratic beds with quartzite pebbles. Similar conglomerates are exposed on the lower part of Little River and on Fitzsimmons Brook and River Philip. Their inclusion in the Cumberland group is somewhat arbitrary, and their precise age must await fossil evidence.

In general the Pictou group (5) succeeds the Cumberland group with apparent conformity, but in the vicinity of Roslin structural relations suggest an unconformity. There the Windsor, saline-bearing rocks have, seemingly, broken through those of the Cumberland group, and are overlain by the Pictou group. The basal Pictou strata are conglomerates that are only separable with difficulty from some conglomerates assigned to the Cumberland group. In general they are red rather than grey, and commonly carry cobbles, rather than pebbles, of quartzite. But the greater part of the Pictou group within the map-area comprises brownish red, strongly micaceous, soft sandstones and siltstones. These strata are commonly so markedly crossbedded and lie at such low angles that many of the recorded strikes and dips are of doubtful accuracy. This is particularly true in the northern half of the map-area. No well-defined folds could be detected there, although local rolls are evident. A few plant species of Upper Westphalian (late Pennsylvanian) age were collected from strata in the brook channel north of Beckwith church.

ECONOMIC GEOLOGY

The gypsum deposits of the area are either too heavily drift-covered or too remote from cheap transportation routes to be worked economically. It is inferred, however, that thick deposits of salt may be present in the anticlinal area of Purdy Brook and in the Windsor area near Roslin. In any future drilling for salt in such areas the possibility of encountering potash salts should not be overlooked.

A small deposit of celestite, associated with some barite, was opened up on Dickson Brook. This was not exposed at the time visited. The coarsely crystalline character of the fragments, observed in the waste dump from one of the old pits, indicates a narrow fissure vein rather than a large replacement deposit.

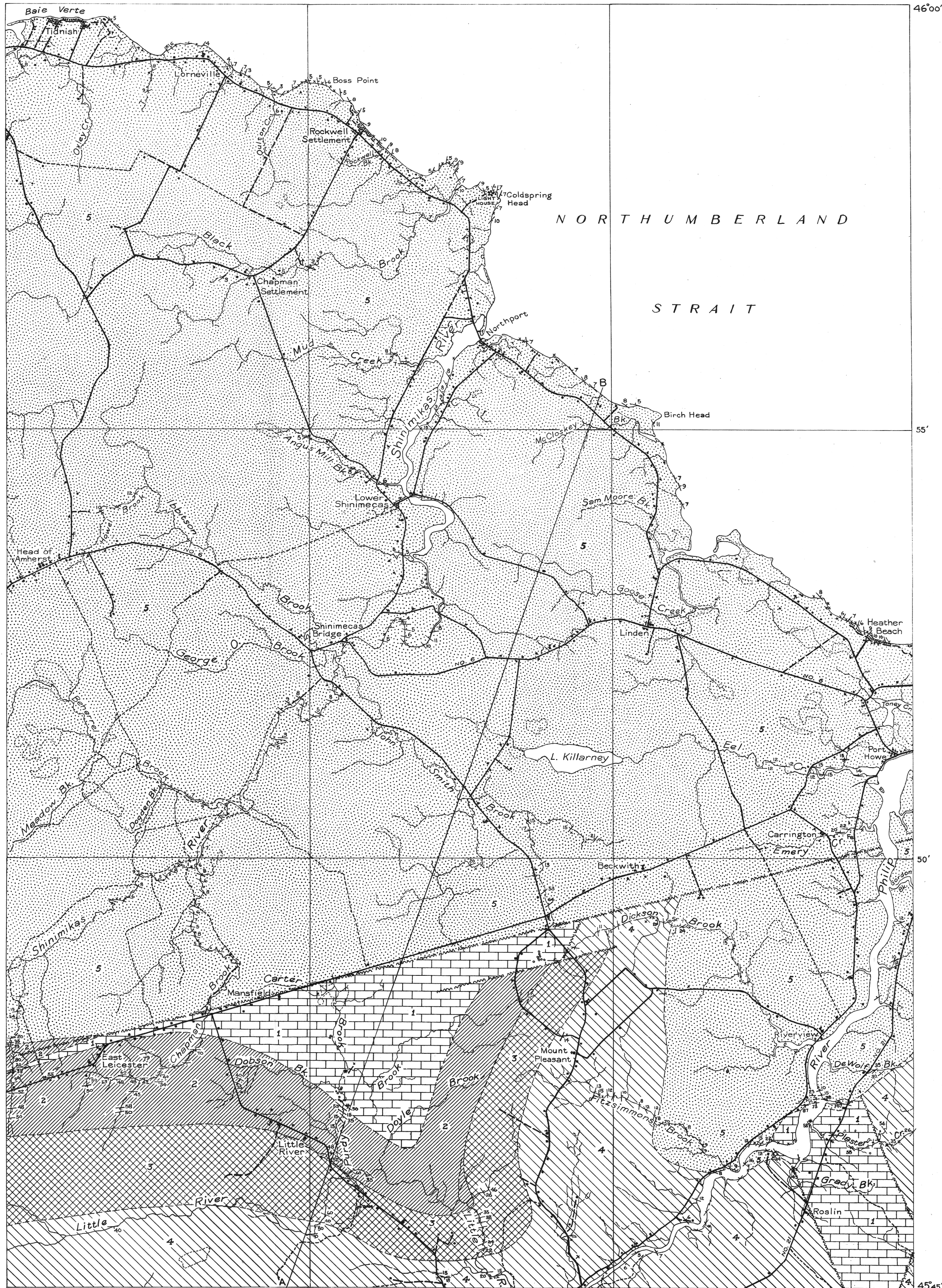
Fragments of limonite and hematite, some carrying a little barite, occur in the glacial drift near Carrington. They were derived presumably from veins and not from a bedded deposit.

Grey sandstone on Plaster Creek, here assigned to the Cumberland group, was quarried for building stone many years ago. Grey sandstone of the Pictou group, on a small tributary of Eel Creek near Port Howe, was also quarried at one time, as well as red sandstone of the same group on the east side of Shinimikas River about 7,200 feet above Northport.

<sup>1</sup> Bell, W. A., Horton-Windsor District, N. S., Geol. Surv., Canada, Mem. 155, p. 47 (1929).

GEOLOGICAL SURVEY

STRUCTURE SECTION ALONG THE LINE A - B



PRELIMINARY MAP 44-35  
**SHINIMIKAS**  
CUMBERLAND COUNTY  
**NOVA SCOTIA**  
Scale: 1 inch to 1 mile

Surveyed and compiled by the Topographical Survey,  
Issued 1944