

Structure sections along lines A-A and B-B

LEGEND

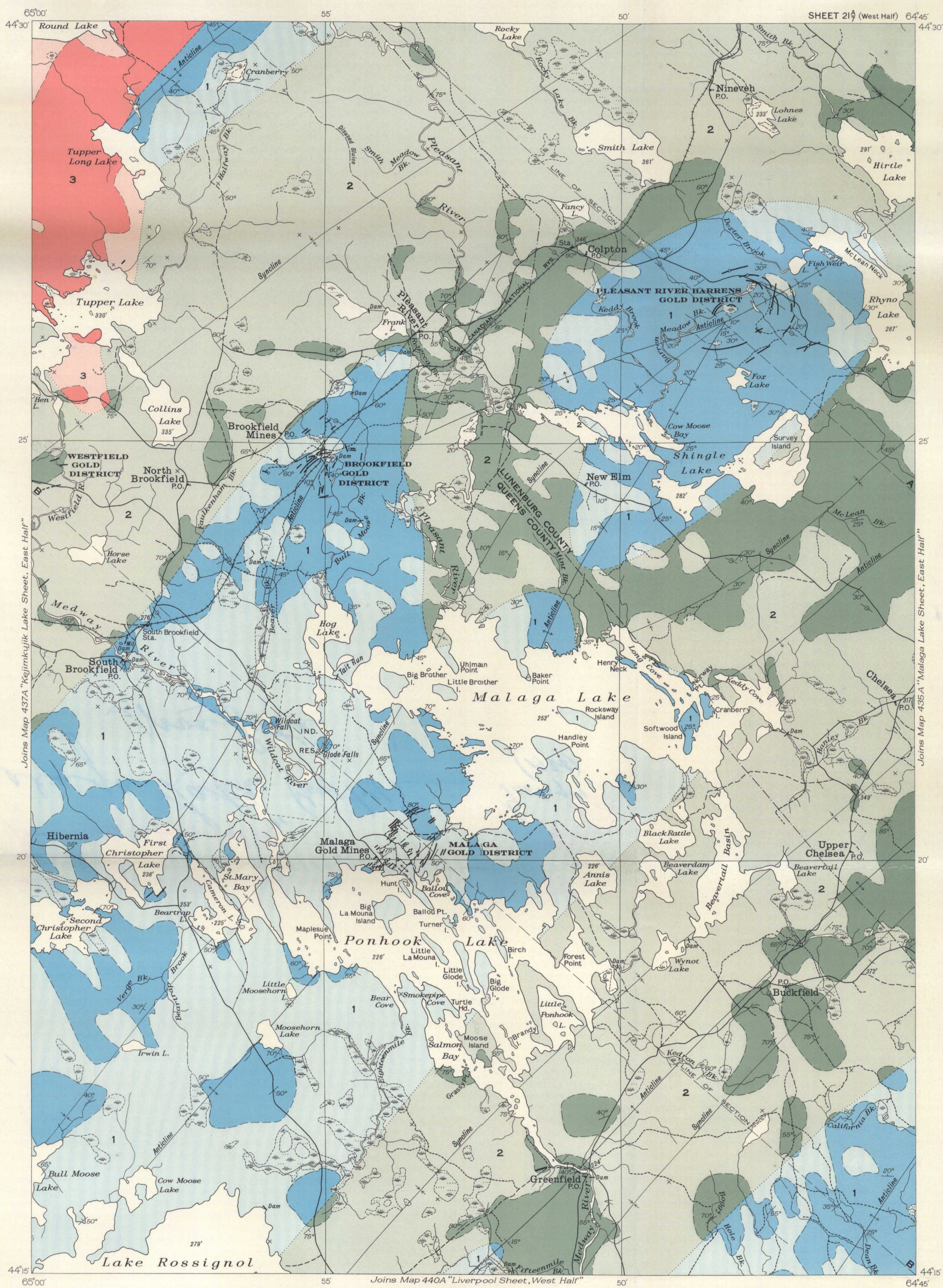
NOTE: - Outcrops or areas of outcrops of a formation are shown by deep colour; inferred extensions of a formation beneath drift are shown by a lighter tint of the same colour. Small outcrops are shown thus: x

- PRECAMBRIAN(?) PALAEOZOIC
- 3 GRANITE
 - 2 HALIFAX FORMATION: black, grey and green slate and argillite
 - 1 GOLDENVILLE FORMATION: quartzite (whin) and slate

- Quartz veins
- Shaft deeper than 50 feet
- Bedding (inclined)
- Anticlinal axis
- Synclinal axis
- Glacial striae
- Road (well travelled)
- Road (not well travelled)
- Trail
- Railway
- Transmission line (not along road)
- Bridge
- Post Office
- County boundary (approximate)
- Dam
- Fall or rapid
- Marsh
- Height in feet

Compiled and reproduced from surveys by the Bureau of Geology and Topography, and from information supplied by Federal Government Departments. Geology by E. R. Faribault, P. Armstrong (1936), and J. T. Wilson (1936).

Approximate magnetic declination, 22° West



MAP 436A
MALAGA LAKE SHEET
 (WEST HALF)
 QUEENS, AND LUNENBURG COUNTIES
 NOVA SCOTIA
 Scale, 63360 or 1 inch to 1 Mile
 Miles
 Kilometres

PHYSICAL FEATURES

The area is a plain of low relief sloping to the southeast over which are scattered more than 500 symmetrical hills composed of debris deposited beneath the ice sheet that at one time occupied the region. These hills, known as drumlins, are elliptical in plan, from one quarter to one mile long, and up to 200 feet high. Their longer axes follow directions varying between N. 20° W. and N. 60° W. Usually the highest point is near the northwest end and frequently the southwest side of the hill is the steeper. The drumlins make good farms and it is their presence that gives rise to the agricultural district of Lunenburg and Queens counties. They occur everywhere in the area except along the southern margin, on Pleasant River Barrens, and in the northwest corner. The shapes of many of the lakes are due in part to drumlins. Most of the islands and points of Ponhook and Malaga lakes, for instance, are drumlins.

GENERAL GEOLOGY

The Meguma or Gold-bearing series that underlies nearly the whole area is presumably of late Precambrian age. It consists of two formations. The older formation is the Goldenville (1) and it consists mainly of grey or blue-grey quartzite (whin) that weathers light grey. Narrow beds of blue-grey to green-grey slate occur with the quartzite but form only a small part of the formation and are poorly exposed. Upwards in the formation the quartzite becomes more argillaceous, slate bands become commoner and wider, and at the summit of the formation in a zone a few hundred feet thick, the Goldenville quartzite grades into the overlying Halifax slate. The boundary between the two formations is placed at the highest exposed bed of quartzite.

The lower part of the younger member of the Meguma series, the Halifax formation (2), consists of green-grey and grey slates and argillites such as are well exposed around the Pleasant River Barrens dome. These pass upwards into purple, blue-grey, green-grey, grey and black slates that are softer and cleave more readily than the slates of the lower part of the formation.

In the northwest corner of the area, granite (3) cuts across the Meguma sediments. This body is part of a tongue-like projection from the granite mass that extends from Halifax to Digby county. The rock is a coarse, biotite granite tending to be porphyritic. Numerous masses of the sediments lie in the marginal part of the granite body and the sediments near the granite have been altered.

STRUCTURAL GEOLOGY

The Meguma or Gold-bearing series lies in a succession of gentle folds without known overturning and without major faults. The quartzites are smoothly folded and are disturbed only by a few cross fractures. The slates exhibit many minor folds and fractures.

ECONOMIC GEOLOGY

In the Brookfield gold district quartz veins occur following the bedding of the enclosing Goldenville strata and also occur intersecting the interbedded veins and dipping at high angles towards the axis of the anticline in which the veins have developed. Gold occurs in both sets of veins but most of the ore produced has been taken from veins that intersect the interbedded veins. The Libby vein produced the most gold and has been mined to a vertical depth greater than 1,000 feet. Since 1906 production from this district has been small although several properties have been worked from time to time.

In the Malaga gold district interbedded quartz veins occur in both limbs of an anticline but the gold produced has been from veins in the north limb of the fold. Surface prospecting has been hindered by the presence of several drumlins and underground development has been made difficult by faults and the disconnected grouping of veins and ore shoots.

In the Pleasant River Barrens gold district a symmetrical dome of quartzite is clearly exposed but the folding has been so gentle that only scattered, intersecting and interbedded quartz veins occur, none of which is large. At Westfield a wide quartz vein or lens (Lumbo vein) occurs in Halifax slates near a synclinal axis. It is reported that many years ago a shaft was sunk near the granite-slate contact, north of Tupper lake, in an effort to find silver.

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