

CHAPTER 9

CHETICAMP - MARGAREE AREA

The presence of salt has not been established by drilling in the Cheticamp-Margaree area (Fig. 1-10), but it is inferred to the present, at least locally, based on the occurrence of a salt spring near Lake O'Law (Fig. 9-1 and 9-2). The geology of the Cheticamp-Margaree area, on portions of NTS 11K/06, 11K/07, 11K/10 and 11K/11, has been described in maps and reports by Cameron (1948), MacLaren (1956a,b), Kelley (1960) and Currie (1977), and unpublished Nova Scotia Department of Mines and Energy assessment file reports from petroleum exploration companies including Imperial Oil, and Lion Oil and Refining. In addition to geological surveys, geophysical surveys including gravity and seismic have been made in parts of the area. A gravity survey by Seismograph Service Corporation (1959) for Imperial Oil Limited outlines several Bouguer minima coincident with the Windsor Group outcrop areas (Fig. 9-1). One such area is the Margaree structural basin. Although gravity coverage is incomplete, a salt spring on the eastern border near Lake O'Law indicates salt is probably present in at least part of the area.

Another Bouguer gravity low is located immediately to the west of the Margaree low and is also coincident with an outcrop belt of Windsor Group in the area between Margaree Forks and South West Margaree (Fig. 9-1). The coincidence of a gravity low and Windsor Group outcrop areas is commonly indicative of the presence of salt.

LAKE O'LAWS (NORTH EAST MARGAREE) SALT SPRING

The presence of salt in the Margaree Valley is indicated by a salt spring situated near Lake O'Law (Fig. 9-1). This spring was located by staff of the Nova Scotia Department of Mines who were carrying out geochemical and geological surveys in the area in 1973 (J. Fowler, personal communication). The geology in the area has been described and mapped by Cameron (1948), Kelly (1960) and MacNabb et al. (1976).

In summary, the Windsor Group outcrop area has all borders, except the western one, defined by faults. The western border is apparently conformable with Horton Group. Numerous sinkholes and gypsum outcrops occur along the western border. Outcrops of Windsor Group rocks are very scarce in the major part of the area. Attempts have not been made to subdivide the Windsor Group strata and subsurface drillhole data are not available for this area.

Although gravity survey data are not complete in the area, a substantial Bouguer gravity low is indicated on a gravity map prepared by Seismograph Service Corporation (1959). This gravity low may be caused by the presence of low density rock such as salt. Exploration drilling will be required to confirm the presence, quality and quantity of salt in this area.

GEOCHEMISTRY

The following unpublished chemical analyses of the salt spring at Lake O'Law (Table 9-1) was obtained in 1973 by J. Fowler of the Nova Scotia Department of Mines. This composition is typical of low CaSO_4 -bearing salt springs in Nova Scotia.

Table 9-1. Chemical analyses, Lake O'Law spring, Inverness County.

	ppm
Calcium	118.8
Magnesium	35.28
Sodium	2700
Potassium	13
Chloride	3941.2
Manganese (total)	0.02
Iron (total)	0.24

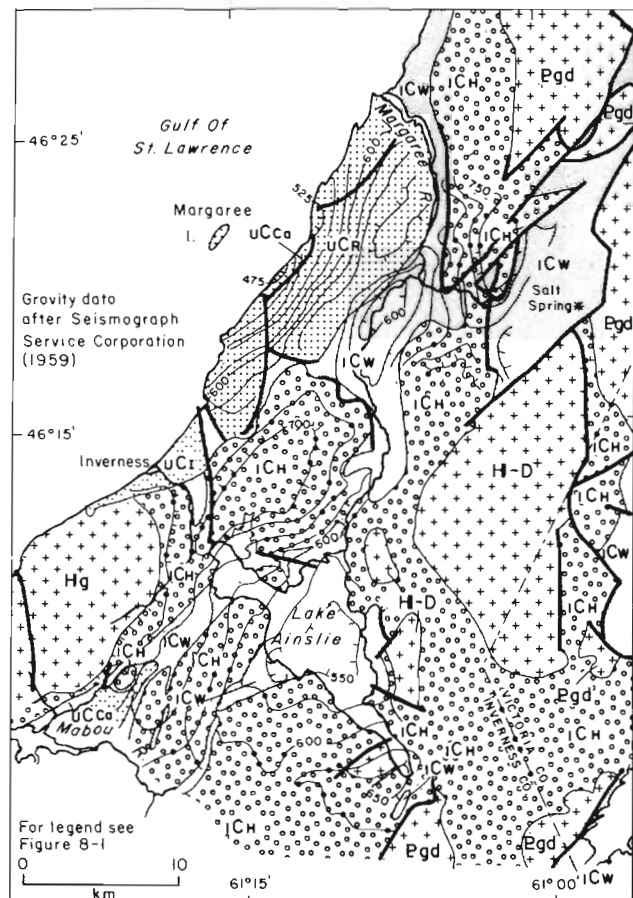


Figure 9-1.

Gravity anomaly map, Margaree area, Cape Breton Island, Nova Scotia.

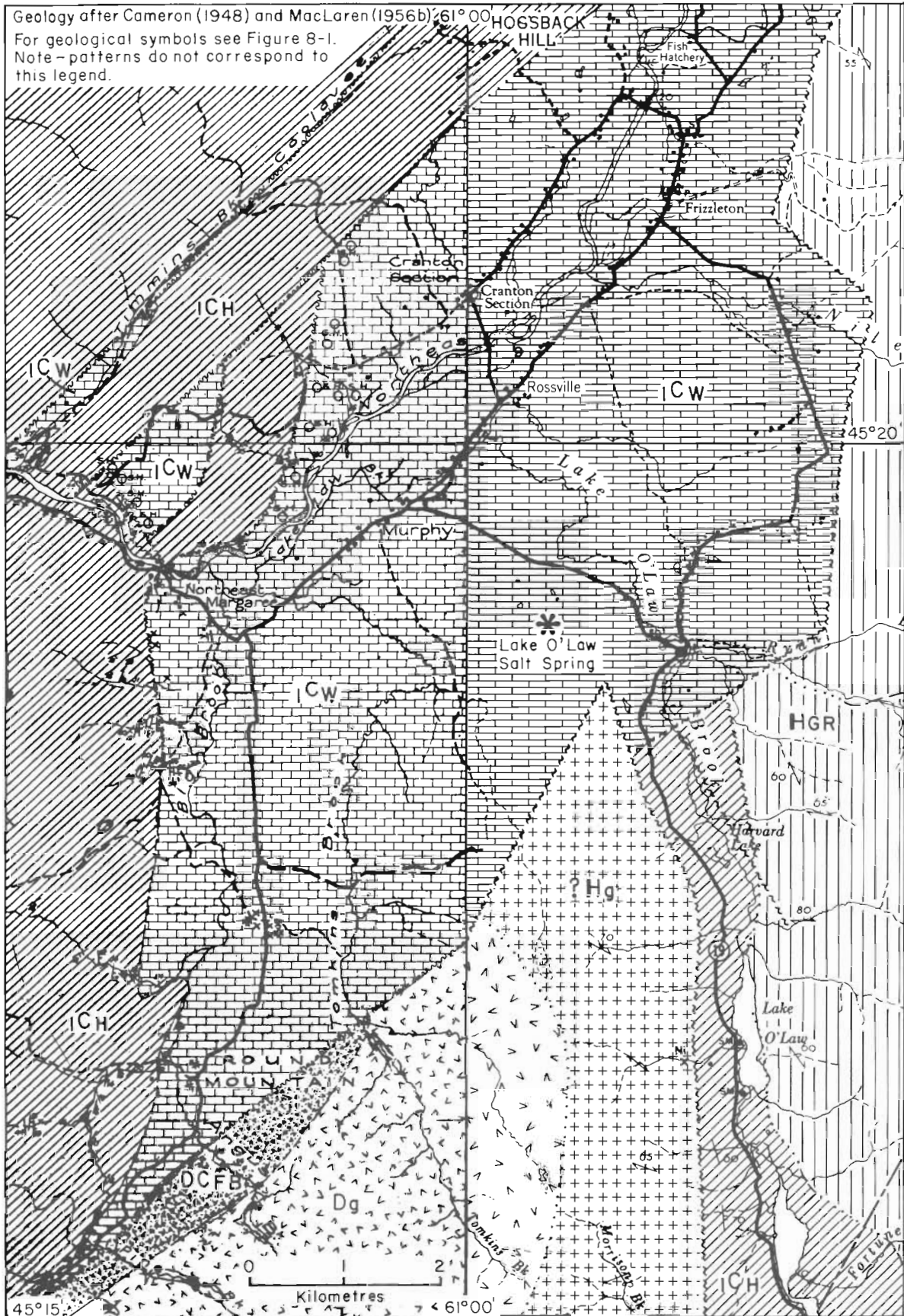


Figure 9-7. Geology in the vicinity of the Lake O'Law salt spring.