
Stratigraphic revision of the Codroy and Barachois groups (Carboniferous) of western Newfoundland

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New palynological data suggest that stratigraphic revision is required for some Carboniferous rock units of the Codroy, Bay St. George and Deer Lake basins. In the Deer Lake Basin, only the youngest Codroy Group is present, comprising redbeds of the North Brook Formation with no indications of marine influence. The Codroy Group in the Bay St. George Basin is comparable to the intermittently marine Windsor Group of Nova Scotia. Youngest Codroy Group strata represented by the fossiliferous marine Crabbes/Jeffreys limestone and associated beds, were deposited very near the Viséan–Namurian boundary, as were youngest Windsor Group marine strata in Nova Scotia. The uppermost part of the Codroy Group in its type area in the Codroy Basin contains a significant volume of grey fossiliferous mudrocks suggesting that marine conditions persisted longer in that area than in the Bay St. George and Deer Lake basins.

The Overfall Brook Member in the Codroy Basin (and its correlative, the Brow Pond Lentil in Bay St. George Basin), previously assigned to the Robinsons River Formation of the Codroy Group, contains palynomorph assemblages of early Namurian (Arnsbergian) age and is here considered a basal member of the Searston Formation. These rock units are respectively unconformable on Late Viséan strata of the Mollichignick Member of the Robinsons River Formation (Codroy Group), or on pre-Carboniferous rocks. The Searston Formation in the Codroy Basin is entirely early Namurian (Arnsbergian) in age. All strata of the “undivided Barachois Group” of the Bay St. George Basin are also Arnsbergian in age, including coal measures in the upper parts of that succession. Thus these coal measures pre-date the mid-Namurian floral crisis and are not correlative with Bolsovian (Westphalian C) coals in the Stephenville area which we suggest should be excluded from the Barachois Group. These Arnsbergian coal measures prob-

ably correlate with coal-bearing strata of the Howley Formation in the Deer Lake Basin. In the latter basin, the early Namurian (Pendleian) Rocky Brook Formation separates youngest Codroy Group North Brook Formation rocks from the Humber Falls Formation which we consider a Searston Formation equivalent. The base of the Humber Falls Formation in the Deer Lake Basin is locally identified as an unconformity. We suggest that this unconformity becomes increasingly significant towards the south in the Codroy Basin where no Rocky Brook Formation equivalent strata are preserved.

Regional correlation of the Codroy Group with the Windsor Group is supported by palynological data. The Rocky Brook Formation correlates with the Hastings Formation of Nova Scotia. The Humber Falls and Howley formations of the Deer Lake basin succession, and the revised Barachois Group in the Bay St. George and Codroy basins are Arnsbergian in age and correlate with the Pomquet Formation (Mabou Group) of Nova Scotia. With the single exception of Bolsovian coal measures in the Stephenville area, all Carboniferous strata so far documented in western Newfoundland predate the mid-Namurian floral crisis and are of Mississippian age.