

# Constraints on the history of the Canada Basin from Chukchi Borderland

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All tectonic models for the Amerasia Basin make predictions about the relationship between the Chukchi Borderland, the Chukchi Shelf and the Canada Basin. Using MCS data we have tested these predictions for formation of the Canada Basin. We have attempted to develop a new set of constraints for the opening of the Canada Basin.

The tectonic setting of the extinct MOR that bisects the Canada Basin argues that it was formed by ultra-slow seafloor spreading. Given the time required to explain the amount of seafloor delimited by paired magnetic anomalies and the apparent absence of the Cretaceous long normal interval in the magnetic anomalies, seafloor spreading must be younger than currently conceived, occurring no earlier than the Cenomanian.

The absence of significant deformation along Northwind Ridge suggests that the current structure was formed in the events that created the Canada Basin. In this light, it becomes possible to consider a progression of extension, which began by dissection of the Borderland, and progressed to the East, culminating in the onset of seafloor spreading and the development of the extinct spreading center known from the magnetic and gravity anomaly maps.

While the observations and crude kinematics outlined in this talk present testable hypotheses for future work, they fall short of a complete model for the development of the Canada Basin. Understanding this history will, eventually, make it possible to understand the development of the Mesozoic-aged Amerasia Basin and the continents that ring it.