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**Upper Cretaceous-Cenozoic salt movement in  
the Abenaki Subbasin, offshore Nova Scotia**

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Salt diapirism is an important process related to the petroleum system of the Scotian Margin. Three large salt diapirs occur in the western part of the Abenaki subbasin. According to previous work published by others, diapirs appear to have been active in two phases. The first phase occurred during the Middle Jurassic as clastic sediments of the Mohican and Mic Mac formations built out into the Scotian Basin. A second phase of renewed movement occurred during the Cenozoic. The latter movement formed a roughly circular withdrawal syncline that was subsequently infilled by younger Cenozoic sediments. This second event was approximately coeval with deposition of Upper Cretaceous and Paleogene prograding sediments in the Abenaki Subbasin. Prograding clinoform units of the Banquereau Formation are seen to downlap on chalks of the Wyandot Formation in the area around the diapirs. Prior to subsidence, topsets of the clinoform units would have been approximately horizontal with respect to sea level, but they now form a broad synclinal shape. The deposition of these sediments may have been sufficient to cause loading and eventual movement of the underlying salt. If such sediment loading did cause salt withdrawal, the age of horizons within, above or below the clinoform units could precisely constrain the timing of salt movement. However, salt withdrawal might have occurred well after deposition of clinoform units, and so be unrelated to sediment loading. This latter possibility raises the question of what other process could have reactivated these salt structures so late in the basin's history. This talk discusses plans for addressing these questions over the next year.

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