Analysis of a Fractured Dolomite Core: Margaree F-70, Deep Panuke Project, Nova Scotia, Canada
CSPG Core Conference immediately following the AAPG
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The purpose of this presentation is to show the facies, diagenesis, and fracture interpretation of the fractured and dolomitized margin of the Abenaki carbonate platform at Deep Panuke. For comparative purposes core recovered in dolomite and limestone from the H-08 and PI-1B cores will also be displayed.

The Deep Panuke gas reservoir was discovered in 1999, 250 km offshore of Halifax Nova Scotia. Gas is trapped in dolomite and limestone at the margin edge of the Jurassic aged, Abenaki carbonate complex. Pressure transient analysis of well test data had indicated that margin edge wells were connected to a highly permeable reservoir, assumed to be fractured or vuggy dolomite.

In 2004 data was obtained on this flow unit when 24 meters of core was recovered from the F-70 wellbore, which was drilled along the margin edge. The core was examined and described in detail by Les Eliuk. Thin sections were described and a diagenetic interpretation provided by Jeff Dravis. The F-70 core encountered foreslope and reefel limestone and fractured vuggy dolomite in the upper portion of the reservoir. In addition high quality FMI data and Stoneley wave data was collected from both of the wells.

The core and associated FMI image from F-70 were examined by Kevin Gillen. His interpretation of the fracture system and fracture and bedding interpretation of the FMI data by HEF Petrophysical were used by Rolf Ackerman of Beicip to build a discrete fracture network model of the reservoir. The parameters and insights gained from this modeling effort have been used to constrain the Eclipse flow simulation model of the reservoir.