

Channel-Fills: Not Your Average Point-Bar Deposit

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Abstract

A comparative study using modern field methods (boxcoring and vibracoring, shallow reflection seismic, and point counting), in conjunction with outcrop logging (3-dimensional modeling, lab analysis, and strip logging) was conducted at Willapa Bay, Washington. Because of the depositional similarities between the ancient and modern (Clifton and Phillips, 1980; Gingras et al., 1999), relationships can be viewed between (a) depositional versus preserved morphologies; (b) the variation in the internal architecture of channel-fills as you move landward; and (c) the difference between channel-fills and point-bars. The Willapa Bay examples demonstrate that the outer and middle estuary is characterized by thick and wide point-bars, while the inner estuary is characterized by vertically accreted channel-fills, which are relative in size to the width and depth of the channel.