

Scientific Results Volume 110: Chapter 1: Figure 1. Map showing the location of wide-aperture seismic reflection lines (solid lines) across the Barbados Ridge. Fracture zones traced westward from the Atlantic basin to the seaward edge of the Caribbean Plate are indicated with ---. Expanding spread profiles that provided velocities reported in Tiley (1988) are indicated by dashed lines. Three wide-aperture seismic reflection lines from the Barbados Ridge reveal the internal structure of the accretionary wedge as well as its overall geometry. The location of these lines is shown. The numbers along the base of each line indicate the distance in kilometers westward from the toe of the wedge. The vertical axis is two-way reflection time in seconds. Note particularly in the north where the wedge is only 100 km wide that the oceanic crustal reflection can be imaged westward beneath the entire accretionary prism to a point where it meets an eastward-dipping reflection from the forearc basement. Farther south where the wedge is as much as 300 km wide, the top oceanic crust can be imaged 100 km west from the toe of the wedge separated from the décollement by as much as 1 s of underthrust sediments.

