estimated depths of flooding and thicknesses of sediments deposited from the floods at several key locations along the Coca and Aguarico Rivers and their tributaries.

Because the stripping of earth materials from the slopes also removed the vegetative cover (mainly trees and brush), these large debris flows undoubtedly were charged with timber debris, similar to the debris flows that de-

FIGURE 5.16B

floodplain. Bedrock constriction of the Coca River (indicated by two arrows at the right) probably caused short-lived "hydraulic" damming of the river that contributed to upstream flooding and sedimentation. Note landslide (single arrow near center of photo) that badly damaged the Salado pumping plant of the Trans-Ecuadorian oil pipeline.

FIGURE 5.17A

FIGURES 5.17 Looking up the Salado River from the confluence of the Salado and Quijos rivers. (A) 1978 photo showing the Trans-Ecuadorian highway bridge (arrow) across the Salado River. Note the Trans-Ecuadorian pipeline where it snakes down the ridge at the left to its crossing at the mouth of the Salado River.

scended the Toutle River in western Washington State as a result of the 1980 eruption of Mount St. Helens (Schuster, 1983). The addition of this timber debris undoubtedly affected the physical character of the debris flows, and as discussed below, probably impeded their passage through narrow bedrock constrictions in the narrow stream valleys.

As noted by Hakuno et al. (1988), a local resident who lived along the Coca River about 30 km from the epicenters of the earthquakes (most probably between the mouth of the Malo River and San Rafael Falls) reported that the Coca became completely dry soon after the earthquakes, which occurred at about 2100 and 2300 on March 5. Flow began again with a high