



Figure C-2
Closeup view of eroded wide-flange beam section.

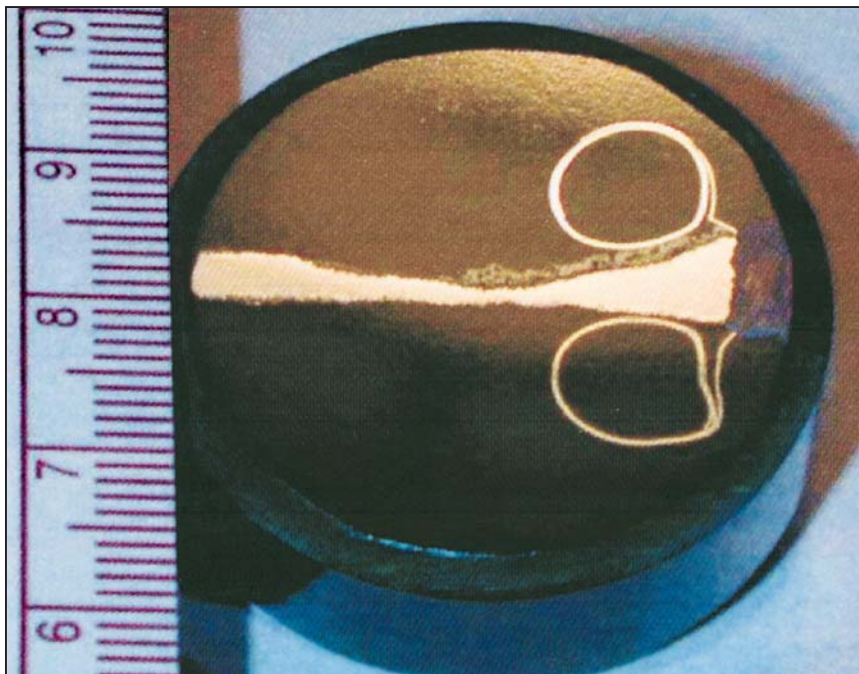


Figure C-3
Mounted and polished severely thinned section removed from the wide-flange beam shown in Figure C-1.

beam and making it susceptible to erosion. The eutectic temperature for this mixture strongly suggests that the temperatures in this region of the steel beam approached 1,000 °C (1,800 °F), which is substantially lower than would be expected for melting this steel.

When steel cools below the eutectic temperature, the liquid of eutectic composition transforms to two phases, iron oxide, FeO, and iron sulfide, FeS. The product of this eutectic reaction is a characteristic geometrical arrangement that is unique and is readily visible even in the unetched microstructure of the steel. Figures C-4 and C-5 present typical near-surface regions showing the microstructural changes that occur due to this corrosion attack. Figure C-6 presents the microstructure from the center of a much thicker