D-1 西宮港大橋におけるピボット支承の破損

Fracture of pivot bearing supporting large arch bridge

海 P-100 ピボット支承の損傷状況 Damages on P-100

上沓の焼付き箇所
A melted portion of an upper shoe due to frictional heat

西宮港大橋は、5号湾岸線甲子園浜～西宮浜間の西宮航路をまたぐニールセンローゼ橋です。西宮浜側橋脚（海P－100）上において本橋を支持する2基のピボット支承（固定支承）のうち、山側支承の上沓が半分に割れて落下しました。展示は、海P－100上に残ったピボット支承の下沓および上沓の半分と、甲子園浜側橋脚（海P－99）上の落橋した隣接桁を支持していたピボット支承です。

Nishinomiya-ko Bridge on Wangan Route (Route 5) is a 252 meters long Nielsen-Lohse arch bridge with steel decks linking two reclaimed lands in the Osaka Bay. The bridge is supported by fixed bearings on the east pier (Osaka side), and by movable bearings on the west pier (Kobe side). The bearings are all pivot type. Of the two fixed bearings, the one in the north (mountain side) suffered from brittle fracture on the upper shoe due to tremendous lateral seismic force. The upper shoe was fractured in half and the loosened part was dislodged from the pier.

The lower shoe that was left on the pier and the remained half of the upper shoe are shown here. The another Pivot bearing supporting the adjacent span which was collapsed due to the excessive displacement of the Nishinomiya-ko Brisge is also shown here.