



# LAR DAM

## Iran, 1989

### PROJECT CHARACTERISTICS

**Works:** gravel fill dam built over lakustrine deposits and karstified rock.

**Purpose:** irrigation, power, and water supply

#### Dimensions:

- *height:* 105 m
- *embankment volume:* 14 000 000 m<sup>3</sup>
- *storage:* 860 000 000 m<sup>3</sup>
- *crest length:* 1300 m

**Watertightness:** central impervious core, double concrete diaphragm wall, grouting of the right abutment rock.

#### Materials:

- *foundation:* karstic limestone, lake deposits, lavas;
- *embankment:* sand and gravel rockfill, random fill.



### PROFESSIONAL SERVICES PERFORMED

Consulting within an International Panel of Experts to the Owner in order to analyze the situation and to determine the reasons for the impossibility to fill the reservoir and suggesting protective measures for the dam and remedial works allowing to fill the reservoir.

*Lar dam, first impounded in 1980, is located on the Lar River, about 100 km North East of Teheran.*

*Lar dam is a zoned earth and rock embankment with slopes set at 3.5H/1V and 2.25H/1V. The crest is 13 m wide. Since the first impounding, the reservoir did not reach its maximum design level. Widespread karst phenomena, like large sinkholes, caverns and springs, several miles downstream of the dam, were observed. These phenomena are related to a very complex geology and geological history of this site dominated by the volcanic activity of the nearby Damavanda which has filled the original valley, burying an extensive karst and forcing the river into a new course.*

