



# ERTAN COFFERDAMS

## P. R. of China, 1992

### PROJECT CHARACTERISTICS

**Works:** Upstream and downstream cofferdams

**Purpose:** Temporary river diversion, foundation dewatering and deep riverbed excavations

#### Dimensions of Upstream Cofferdam:

- height: 60 m
- embankment volume: 2 000 000 m<sup>3</sup>
- crest length: 260 m

#### Dimensions of Downstream Cofferdam:

- height: 30 m
- embankment volume: 1 000 000 m<sup>3</sup>
- crest length: 170 m

**Watertightness:** Inclined clay core. Jet-grouted curtain through alluvia, grout-curtain in rock

#### Materials:

- foundation: debris, coarse alluvium, sandy silt, fissured rock
- embankment: rockfill, common excavation (coarse), residual red clay



### PROFESSIONAL SERVICES PERFORMED

Review of geotechnical characteristics of construction materials and of foundation soils. Preliminary design, stability and seepage analyses, construction drawings, construction supervision, design of deep excavation slopes and dewatering, analyses of monitoring data.

*The upstream and downstream earth and rock cofferdams of Ertan Project have been foreseen across the Yalong river in Sichuan Province to allow dewatering the foundation of the concrete main dam.*

*Both cofferdams started with the construction of a stream cutting dike in coarse rockfill, which will be subsequently included in the final cross section of the cofferdams. The lower 10 to 12 m of the core and shell zones of both cofferdams was dumped underwater. The portion above water level was placed in layers and compacted. The core is sealed on a 3-rows, 55 m deep, jet-grouted cut-off.*

*In order to control the water table during deep excavation in the natural alluvial deposits down to bedrock, rows of sump wells have been foreseen for both cofferdams. Moreover, a berm, above the foundation jet-grouting curtain, was provided to re-drill, re-grout and add jet grouting, if necessary.*

