

Dam: Tianhuaban

Country: China

River: Niulan

27°1'41.12"N 103°17'26.67"E

27.02809 103.290741

Owner/Client: Yunnan Dianneng Niulanjiang Hydropower Development Co. Ltd.

Designer/Engineer: Beijing Hydropower Investigation, Design and Research Institute, CHECC

Contractor: SinoHydro Construction Bureau N<sup>o</sup>14 Co. Ltd.

Purpose (code): H

Site start: 01.12.2006

RCC start: 01.01.2007

RCC completion: 31.12.2009

Site completion: 31.12.2010

Height (m): 113

Length (m): 160

Volume of RCC (m<sup>3</sup>x10<sup>3</sup>): 182

Total volume (m<sup>3</sup>x10<sup>3</sup>): 360

Reservoir capacity (m<sup>3</sup>x10<sup>6</sup>): 66

Upstream slope: curve

Forming of upstream face (code): (3')

Downstream slope: curve

Forming of downstream face (code): (3')

Spillway slope: ogee

Forming of spillway face (code): (3)

Depth of layers (mm): *Unknown*

Depth of lifts (mm): *Unknown*

Cement content (kg/m<sup>3</sup>): *Unknown*

Pozzolan content (kg/m<sup>3</sup>): *Unknown*

Code for pozzolan: *Unknown*

RCCDAM Unique Serial No.: RCCDAM0449

## Under Construction



RCCDAM0449UC

## Completed Dam



RCCDAM0449CD

## Google Earth



RCCDAM0449GE

# Guide to Abbreviations

## Purpose

- E Environmental
- F Flood control
- G Groundwater recharge
- H Flood control
- I Irrigation
- N Navigation
- P Pollution control
- R Recreation
- W Water supply

## Facing method

- (1) Traditional concrete against formwork
- (2) Traditional concrete against formwork with external geomembrane
- (3) RCC against formwork
- (4) RCC against formwork with external geomembrane
- (5) Traditional concrete against precast concrete panels
- (6) Traditional concrete against precast concrete panels with geomembrane
- (7) RCC against precast concrete panels
- (8) RCC against precast concrete panels with geomembrane
- (9) RCC against precast concrete panels with hot poured membrane
- (10) RCC against precast concrete blocks
- (11) Reinforced conventional concrete cast before RCC placement
- (12) Reinforced conventional concrete cast after RCC placement
- (13) Reinforced concrete cast against precast units or slip-formed facing elements
- (14) Slip-formed/extruded facing elements
- (15) RCC supported by fill shoulders
- (16) Mechanically compacted unformed face of RCC
- (17) Unformed face of RCC
  - ' GEVR/GE-RCC
  - \* Stepped face

## Pozzolans

- (-) No Pozzolan Used
- (C) High-lime flyash (ASTM Class C)
- (F) Low-lime flyash (ASTM Class F)
- (M) Milled sand
- (N) Natural pozzolan (ASTM Class N)
- (R) ROLAC (mixture of flyash and slag with or without limestone fines)
- (S) Ground-granulated blast-furnace slag
- (L) Mixture of GGBFS and limestone fines