

Dam: San Rafael

Country Mexico

River Santiago

21°46'52.34"N 104°53'14.79"W

21.781206 -104.887444

Owner/Client CFE (Comisión Federal de Electricidad)

Designer/Engineer Comisión Federal de Electricidad (CFE)

Contractor Bufete Industrial Construcciones, S.A. de C.V.

Purpose (code) F H

Site start 28.11.1993

RCC start 11.05.1994

RCC completion 20.07.1994

Site completion 20.07.1994

Height (m) 48

Length (m) 176

Volume of RCC ($m^3 \times 10^3$) 81

Total volume ($m^3 \times 10^3$) 110

Reservoir capacity ($m^3 \times 10^6$) 26

Upstream slope V

Forming of upstream face (code) (5)

Downstream slope 0.66
0.80

Forming of downstream face (code) (3) *

Spillway slope separate

Forming of spillway face (code) *Unknown*

Depth of layers (mm) 300

Depth of lifts (mm) 300

Cement content (kg/m^3) 90

Pozzolan content (kg/m^3) 130

Code for pozzolan (N)

RCCDAM Unique Serial No. RCCDAM0141

Under Construction



RCCDAM0141UC

Completed Dam



RCCDAM0141CD

Google Earth



RCCDAM0141GE

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