

## PROJECT 2ND WATER POWER PLANT OF HONGRIN LÉMAN



### PROJECT NAME

FMHL + New Water Power Plant  
Water tightening by means of rock grouting

### CLIENT

Forces Motrices Hongrin Léman SA

### ENGINEER

Stucky EDF Emch&Berger (GIHLEM)

### GENERAL CONTRACTOR

JV LEDI

### SPECIALIST CONTRACTOR

**RODIO** Geotechnik AG

### CONTRACT VALUE

EURO 9,0 Mio. CHF 11,0 Mio.

### BEGINNING OF WORKS

Februar 2012

### END OF WORKS

July 2013

### ■ JOB DESCRIPTION

The Swiss company Hongrin-Léman SA, has decided to double the capacity of existing hydroelectric plant, by the construction of a new pumped storage power plant into cavern called "Veytaux 2" with a total capacity of 240 MW. The new plant includes one new access tunnel, a cavern, two hydraulic circuit and different chambers.

**RODIO** performs all drilling and grouting works to seal the rocks mass below water level which lies around the cavern and tunnels. The bedrock consists of hard limestone and marl, with benches of calcareous and argillaceous slate of the so called "Bajocien." The fracturing of the massif is quite broad developed and relatively uniform., The full face rock holes 95 mm are performed by RODIO using a down-the-hole hammer type Wassara whereas the cored boreholes are made with a double core barrel equipped with a diamond crown bit 101 mm. Rock grouting is performed by means of GIN method using computer controlled hydraulic pumps.

### ■ WORK QUANTITIES

100.000 m full face drillings Ø 95 mm 600 m cored drillings Ø 101 mm.

Average depth ca. 30 m. Max. depth up to 49 m

Injection: 4.500 m<sup>3</sup> of cement grout 4.000 Ton of cement 52.5

Ca. 8.000 Pump hours.

### ■ MAIN EQUIPMENT

up to 4 drill rigs type: Comacchio 1200, EGT 710, IPC1200, SM14

1 fully automatic mixing plant type JM30

8 hydraulic controlled grouting pumps type Scheltzke IP63

Fully automatic control of the GIN process and recording of all grouting parameters by means of LUTZ DIALOG system.



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# Rock Grouting



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Grouting Plant with DIALOG GIN graphics on screen



Drill rigs in work in the main cavern



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