



OLKARIA GEOTHERMAL POWER PLANT

Naivasha, Kenya



Project Facts

Product

CFA Piles

Market

Renewable Energy

Client

KENGEN – Ultimate Client

Marubeni Tokyo - EPC

Main Contractor

The Civicon Limited and Fuji Electric Company Consortium

Achievements

- Installation of 585 No. 600mm Ø CFA piles up to 14m deep.
- Piling process carefully controlled by Franki inhouse quality control and design ensuring excellent pile performance.
- Piles tested using traditional static load test and sonic integrity testing.
- Productions in excess of 20 piles per day during the peak of the piling contract.

• About the project

KENGEN recently embarked on an expansion program at the Olkaria 1 Geothermal Power Station located in the Great Rift Valley near Naivasha in Kenya. Franki was called upon by Civicon to design and install the foundations for the cooling tower and turbine building extensions to Unit 6. After analysing the soil conditions it was clear a piled foundation was required.

• Challenges

In order to meet the client's program, the installation sequence of the CFA piles had to be carefully planned. The inhouse Franki design team designed the foundation solution. In order to eliminate any differential settlement between the various structures, the whole plant was placed on piles. Some piles were located in deep excavations, making access to the pile positions challenging at times. Close liaison with the main contractor and the professional team was key to completing the piling within the contractual timeline.

• The solution

A total of 585 CFA piles were installed to a maximum depth of 14 meters. The pile design and performance was confirmed by conducting static load tests. The test piles were loaded to 250% in accordance with ASTM 1143 test procedure.