

NEAT Lötschberg base tunnel Pilot tunnel Kandertal

Client

BLS AlpTransit Ltd.

Consultant

IUB Engineering Ltd in consortium

Construction periode

April 1994–July 1997

Construction costs

41 mio. CHF

Scope of service

- Construction project
- Comparison of tenders
- Execution project
- Supervision of works
- Photogrammetrical convergence measurements (coverage of rock deformations directly behind the cutting head)
- Construction documentation

Description

The 9.4 km long pilot tunnel, headed with a tunnel heading and cutting machine, has an excavation diameter of 5 metres. It lies 30 metres next to the future base tunnel tube. A window tunnel, from the Mitholz place of installation, reaches the exploring tunnel about 7.2 km mountain side of the Frutigen mouth. The pilot tunnel has the following tasks to fulfill in particular: It has to provide faultless information about the unworked rock, give indications of the presence of water and gas in the layers of rock, give information on the cuttability of the future base tunnel with 9.4 m diameter and open up the possibility of doing a sloping advance heading from Mitholz to Frutigen.

Main Data

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|-------------------------|-----------------------|
| – TBM diameter | 5.03 m |
| – Roller bit | 35 bits, 15" |
| – Cutting length | 1.87 m |
| – Total weight TBM | 300 t |
| – Driving capacity | 6 x 315 kW |
| – Speed of cutting head | 10.2 rpm |
| – Manufacturer of TBM | Robbins / Atlas Copco |
| – Reamer | Ammann, Switzerland |

