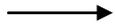


**TERRA-JET 3008 ES drills in Switzerland**

The Swiss contractor Tschanz Grabenlos AG from Luterbach has used its HDD pit machine TERRA-JET 3008 ES for a bore in Bibrist. This difficult bore runs underneath existing stairs with an inclination of 48 % downwards. The pit machine was installed in the starting pit with this inclination.

The first 12 m (40 ft) of the pilot bore went straight. Then the drill master Rolf Kauer started to correct the pilot bore upwards. Therefore he used the minimum bending radius of 35 m (115 ft). He drilled upwards until the drill head had an inclination of 10 % upwards. The rest of the pilot bore went straight into the target pit.

As soon as the drill head arrived the target pit, it was disassembled and replaced by the backreamer. The new HDPE pipe with an outer diameter of 132 mm (5.2") was assembled. Due to the hard ground, the bentonite drilling fluid was thickened. This allowed to backream the bore to  $\varnothing$  180 mm (7") and to pull in the HDPE pipe over the full length of 48 m (160 ft).



The power pack for the pit machine and the mixing+pumping system remain on the trailer. The power pack is equipped with the optional particle filter.



The drill head is located during the pilot bore.



After the pilot bore the drill head is disassembled and the backreamer with HDPE pipe is assembled .



The drill mud is sucked by a special suction trailer.

