

Blue impressions in the Erzgebirge mountains

DN 600 Buderus pipe with BLS® joints maintain the water supply in the Zwickau region

In the region south of Zwickau, the water supply company Zweckverband Fernwasser Südsachsen of South Saxony has a DN 1200 long-distance water pipeline of steel which was laid some years before re-unification. The pipeline, which is showing its age, was causing serious problems because the bitumen coating on the inside had gradually become detached from the wall of the pipe and pieces of detached material were being carried along in the water. To stop fragments of bitumen from finding their way to the end users via the distribution network, the company had to find a solution which would meet public health requirements. It had no choice but to shut the steel pipeline down, a section at a time, and completely renovate it from the inside. However, there were some 200,000 people in the area affected by the renovation whose supply of drinking water had to be maintained, so it was essential for a safe and reliable interim pipeline to be laid on the surface of the ground.

The first section that had to be renovated is 6,000 metres long. It runs from the point where the pipeline crosses the Zwickauer Mulde river in the Grünau district to low point 8 in the Hartenstein district. The renovation is being carried out in three sub-sections each approximately 2,000 metres long. Because of the differences in height (120 metres) and the existing supply pres-



Wolfgang Rink, head of BGW's Applications Engineering Division, appraises the first section of the interim pipeline in the Hartenstein district.

sure, the interim pipeline had to be designed for an operating pressure (PFA) of 25 bars. Before being put into service, the interim pipeline was pressure tested at a test pressure of 30 bars. This generated a thrust of approximately 95 tonnes at the end of the pipeline and a resultant force of approximately 72 tonnes at a 45° bend. Because the renovation is being carried out in three sub-sections, the pipes used

have to be capable of standing the strain of being connected three times and then disconnected again three times. These are demanding requirements, and it was possible to convince the customer that the only ideal way of meeting them was by using DN 600 Buderus pipe of ductile cast iron connected by BLS® joints with restrained socket joints. The laying of a pipeline of this kind using ductile cast iron pipe was unknown territory for the construction company doing the work, Umwelttechnik und Wasserbau GmbH of Jena. BGW's Applications Engineering Division therefore did everything it could to help and provided the company with effective assistance. This made a crucial contribution and as a result the pipeline, which winds through the Erzgebirge, south of Zwickau, like a gigantic blue snake, has been in trouble-free operation since the beginning of April. Once again, ductile cast iron pipe using BLS® joints have demonstrated their wide versatility when used for special applications.